

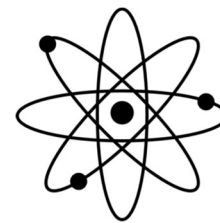


# Physics in the Universe

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Jackson High School



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**Instructor:** Gregory Poe

**Room:** C204

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

**Tutorial/Office Hours:**

2:05 – 2:30 Tuesday, Thursday, or (preferably) by appointment

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**About Mr. Poe:** I love physics, but even more I love *teaching*. I look forward to seeing my students and helping them grow. I go the extra mile when it comes to planning lessons and ensuring fairness. I'm your coach, not your boss. If we work together, we can accomplish great things.

**Course Description:** This course introduces basic physics concepts and problem-solving strategies. Students explore motion, electromagnetism, and a variety of other topics through a series of real-world scenarios. Activities are designed by HMH and supplemented by a team of experts. In the past, physics classes tended to be math-heavy, but that's not as true today. Students rarely complain about the math difficulty in this course.

## Course Outline:

### FALL SEMESTER

Unit 1: Motion and Forces

Unit 2: Momentum and Collisions

Unit 3: Forces at a Distance

Unit 4: Energy Conversion

### SPRING SEMESTER

Unit 5: Electricity and Magnetism

Unit 6: Nuclear Processes

Unit 7: Waves

Unit 8: Stars and the Universe

**Paternity Leave:** My second child, Beckham, should be born at the end of November. There'll be a substitute from that time until mid-March. She'll introduce herself when we get to that point. She'll teach with her own style, and the information in this syllabus may change.

**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.

**Tutoring Hours:** I'm always available for tutoring on Tuesdays and Thursdays after school from 2:05pm until 2:30pm. But I'm typically available anytime by appointment if I have prior notice.

**Classroom Expectations:** My class is not a study hall, a socializing hour, or a homeroom. Students are here to learn physics. Thus, students cannot work on other class's assignments until they're done with mine. Students can glance at their phones and talk with neighbors while they work, but they cannot play games or engage in off-topic conversations at the expense of completing assignments.

**Canvas and OneNote:** Students need to bring their charged laptops every day. We'll use them to access assessments, assignments, the textbook, labs, games, etc. This year, I'm transitioning from using mostly Canvas to using mostly OneNote. Students have expressed that Canvas has too many pages, and it's confusing to navigate. That said, I still have retests and class information on Canvas.

**Gradebook:** Students earn about 12 weighted grades per semester, mostly determined by assessments and projects. Parents and students can access grades [here](#). I implement standards-

based grading, which assigns grades for *learning*, not for individual assignments. I do not grade labs, worksheets, etc., but I do provide feedback for them in OneNote. Everything's a learning opportunity until we get to assessments and projects. You'll see about  $\frac{3}{4}$  of grades in Gradebook are simply for reference and do not affect the average.

**Standards-Based Grading:** I implement standards-based grading. This means that students are graded for what they know, not for what they do. Compare it to traditional grading:

Traditional Gradebook

	syllabus	force worksheet	video project	cart lab	participate	notebook check	unit 1 quiz	freefall worksheet	unit 1 test	Semester Grade	
student 1	100	100	50	75	100	100	50	100	50	59	F
student 2	0	0	75	0	0	0	100	0	80	62	D

Standards-Based Gradebook

	Standard 1	Standard 2	Standard 3	Semester Grade	
student 1	A	B	A	3.7	F
student 2	B	C	A	3.1	B

Notice, the standards-based gradebook doesn't contain assignments, just standards. Assignments provide evidence which I compile to determine a student's final grade for each standard. But, generally, I take the highest grade between the quiz, the test, or the retest grade to determine students' grades. For example, a student with an A on a quiz and an F on a test would receive an A for that standard. In reality, the gradebook looks like the graphic below. The grey columns are not weighted, meaning that they do not affect students' averages.

	Standard 1: 2D Motion			Standard 1 Final Grade	Standard 2: Forces			Standard 2 Final Grade	Unit 1 Practical Grade	Semester Average	
	Quiz	Test	Retest		Quiz	Test	Retest				
student 1	B	B	A	A	A	B	-	A	A-	3.9	A
student 2	D	C	B	B	C	B	B+	B+	A-	3.2	B+

Note: Orange columns typically represent the highest gray column. Only the orange and blue columns affect the average.

One misconception is that "only tests matter". This is a half-truth. It's very rare that a student gets a B or A without completing assignments. Every assignment helps prepare students for assessments. Additionally, every unit has a practical grade (the blue column, above). For that grade, students apply their learning in a real-world setting (either through a project, or select labs).

You may be asking, "why don't you just grade normally?" Traditional gradebooks can create piles of anxiety-inducing missing work. A student might have an A-level understanding but fail their class because of a missing exam. It doesn't make sense for student to fail a class when they understand the content. Standards-based grading ensures students are graded for *knowing* rather than *doing*.

**Testing:** Generally, 80% of each unit is spent completing labs, games, and activities to learn material. Then, there's a **quiz**, which contains 3 standards. Kids get their grades the next day, study for 1-2 days, then take the **test** over the same 3 standards. After that, students can complete **retests** in Canvas. I take the highest grade from these (see the graphic above).

Some students have test anxiety or may feel too emotional to complete a test. Those students can request to be assessed via conference instead of with a test. I'll do anything to make grades fair.

**Practical Grade:** I hold firm that you don't truly understand something until you can apply it to a new context. Thus, most units end with a hands-on culminating project. A combination of this project, as well as some of the more significant labs, determine students' practical grades.

**Late Work:** Daily activities do not need to be completed if missing, but students may still wish to complete them to prepare for the test. Every assignment is an opportunity to prepare for the unit project and exam, but students' grades are not directly penalized from missing assignments. If you're missing several assignments, ask Mr. Poe to help you prioritize the most important ones to complete.

### **Grading for Mastery:**

To earn an A for a standard, students must demonstrate mastery. This means they must apply their learning to something new. Merely reciting memorized material earns a B. Every assessment will have at least one mastery question requiring application – these questions are how students earn A's. The goal is for grades to reflect understanding, not busywork. If you've mastered the material, you'll be able to answer these questions.

Grade	Score	
Mastery	A	4
Proficient	B	3
Developing	C	2.2
Beginning	D	1.5
No Evidence	F	0

**Homework:** Most students never have homework for this class because there's adequate class time to complete assignments. That said, Mr. Poe typically provides study guides before tests, and you can complete labs and assignments at home if you didn't complete them during class. Most students who don't complete assignments in class do not complete them at home, either. Thus, it's important to spend class time working on physics assignments.

### **To Summarize:**

- Bring your charged device every day.
- I grade standards instead of assignments.
- Each standard is evaluated through a quizzes, test, and retest. I take whichever is the highest.
- To earn an A, students must apply their knowledge. You cannot simply recite a memorized concept and earn an A in this class. This includes a culminating project at the end of most units.