Why Take Physics?

1. See the world in new and amazing ways as we unlock the mysteries of the Universe
2. Learn skills that will help you in the future NO MATTER WHAT YOU DO!
3. Do cool projects, build things, do hands-on labs, work together to solve complex problems, have fun!
4. Develop math skills and number sense in practical and meaningful ways…this helps you prepare for the SAT!
5. Stand out from the crowd…only about 1/3 of US high school students take physics

> " College admission is never just about the GPA. **A transcript with physics is better than one without it**."
>
> —CU Admissions Director

6. Research from the American Institute of Physics and the Univ. of South Florida has found that "physics course-taking appears to be a primary factor in STEM attainment" and that "having taken physics [in high school] is the strongest correlation to STEM degree attainment."
7. **Increase your future earning potential**: careers that use math and science often pay *significantly* more than those that do not, and many of these careers do not require a 4-year degree!

What does a physics student "look like?"

Anybody can be successful in physics, but it helps to possess a few characteristics:

1. Willingness to work hard in a collaborative environment, both in and *out of class*
2. Willingness to try new things and get out of your comfort zone
3. Willingness to work through difficulties and persevere
4. Willingness to use math as a tool to better understand the world around us

Gen. William J. Palmer High School

Questions???

Contact Mr. Lohmann

Rm. 21

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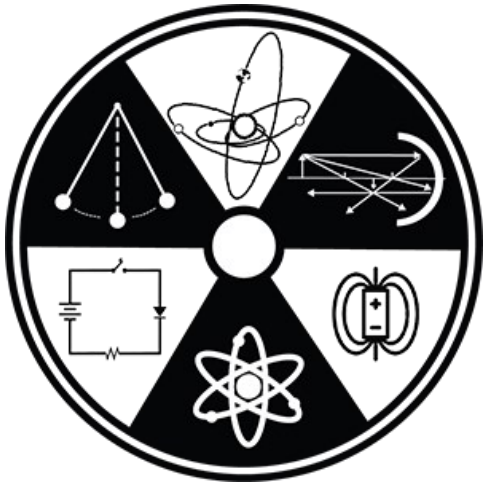
Physics At Palmer High School



Embrace the Challenge!!!

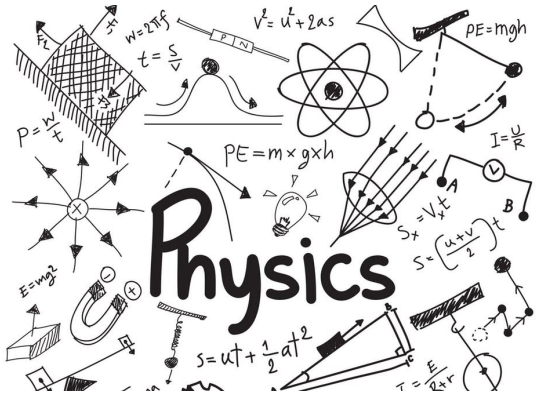
Course Offerings

A message from Mr. Lohmann...

Hello! I am SO excited that you are considering a physics class at Palmer! I'm hoping this pamphlet will help you decide which class would be best for you. I took my first physics class as a senior in high school, and ever since, I haven't been able to get enough…I'm looking forward to sharing my passion for physics and learning with you!

A few things about me:

- I am a graduate of Coronado High School
- I hold a BA in Physics from the University of Kansas and a Master of Natural Science in Physics from Arizona State University
- I enjoy playing bassoon, cello, and bit of banjo (I actually started college as a music major)
- I'm a proud supporter of the Kansas City Royals, Denver Broncos, and Kansas Jayhawks
- I'm working with my dad to restore a 1974 Opel Manta (Google it)



Physics and Honors Physics

2 Semesters

In Physics and Honors Physics, students concentrate primarily on mechanics (velocity, forces, energy, power, momentum, etc.) first semester, and then electricity, sound, and light second semester. In these classes, students collaboratively build conceptual understanding of how the world works, often using math and graphs as part of our process. Along the way, students practice and demonstrate their understanding with a few traditional paper-and-pencil quizzes/tests, but also through completing content-related challenges and engineering projects.

Prerequisites: ***Junior or senior status and successful completion of Chemistry are the only requirements to take either of these classes.*** Physics and Honors Physics requires students to use the skills learned in a typical first-year algebra course: solving single-variable equations and graphing linear and quadratic relationships. We will be putting special emphasis on *number sense* and *using* math and graphs as reasoning tools. While these are not necessarily math-based courses, math is a very important tool that we will be using almost everyday.

What's the difference: Physics and Honors Physics are taught as separate classes, but they explore many of the same topics. The main difference is the math we will use along the way:

- **Physics** uses primarily graphs with some very basic algebra. The course is purposefully designed for students who wish to take physics, but may struggle a bit in math. Rising juniors enrolling in Integrated Math and rising seniors enrolling in Consumer Math should consider enrolling in Physics**.
- **Honors Physics** relies more heavily on algebra, and also includes some simple, right-angle trigonometry. Rising juniors enrolling in Algebra 3/4 and rising seniors enrolling in Functions, Statistics, & Trig or SL Math Applications should consider enrolling in Honors Physics**.

**These math courses are just *recommendations*…feel free to embrace the challenge of a more difficult physics class!

IB Physics SL

2 Semesters

IB Physics is the most rigorous physics course offered at Palmer and is open to *any* junior and senior. Topics studied include mechanics, thermodynamics, waves, electricity, nuclear/particle physics, and astrophysics. As part of the IB curriculum, students will complete an individual research project covering a physics concept they find personally interesting. The depth and pace of IB Physics is comparable to that of introductory algebra-based physics courses at four-year universities. *Anybody* can be successful in IB Physics with the correct mindset. **Students have two opportunities to earn college credit by completing this course:**

1. Passing the IB exam in May
2. Passing the course with a C or better and enrollment in CU Succeed

As such, students are held to near-college-level standards.

Prerequisites: ***Junior or senior status and successful completion of Chemistry are the only requirements to take IB Physics.*** IB Physics is an algebra-based course and relies heavily on a student's ability to reason mathematically and use math to solve problems. Students are expected to enter class the first day with a comfortable, working knowledge of algebra, making and interpreting graphs (linear, quadratic, and exponentials), and right-angle trigonometry. ***It is recommended that students have completed IB MYP Advanced Algebra-Geometry Honors and are concurrently enrolled in an IB DP or AP math class**.***

Who should take IB Physics:

1. Students who wish to challenge themselves
2. Two- or four-year college-bound students
3. Students considering *any* career in STEM
   A. Life science majors are still required to take physics classes in college (credit from the IB Exam or CU Succeed *might* fulfill this requirement…check with each university)
   B. Students wishing to study engineering or physics in college are *especially* encouraged to take IB Physics