

## Physics

Mrs. Kreft- Office Rm 223J  
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Available: Period 5, start of per 8 and by appt

### Overview

Physics is a course where you will learn about how the world around you works. While there is some basic algebra and geometry required, I will be reviewing all of these concepts. Do not let the fear of math scare you away. You all know physics because you see it and experience it everyday in virtually everything you do. This class will teach you the physics terminology and explain why and how things work.

**Textbook** *Holt Physics* 2012 edition by Serway & Faughn (available online)

### Classroom Techniques

Students will take charge of their own learning in this course. Time in class will be devoted to working together for labs and solving problems on whiteboards to share solutions with the class. You will get out of this class what you choose to put into it.

### **Main Objectives- (along with topics covered)**

1. Analyze problems involving 1D kinematics ; motion graphs, velocity, acceleration
2. Analyze problems involving vectors and 2D kinematics; vectors, projectile motion, relative motion
3. Using Newton's 3 Laws, analyze the motion of objects; Newton's 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Laws, friction, free-body diagrams
4. Use work, energy and power relationships to analyze motion of objects; work, energy, conservation of energy, power
5. Analyze collisions using conservation of linear momentum and impulse
6. Analyze the motion of objects that are immersed in a fluid; buoyant force, pressure
7. Analyze objects at different temperatures; temperature, heat,
8. Analyze wave motion; simple harmonic motion, waves, sound, interference
9. Analyze the behavior of light, mirrors, color, polarization, refraction, lenses, interference
10. Explain electric charges, analyze the interaction between nearby charges; insulators and conductors, Coulomb's Law
11. Use Ohm's Law to calculate current through a conductor; Ohm's law;
12. Analyze simple and complex DC circuits; simple and complex loops; power

### Course Expectations

1. Come prepared to class **ON TIME** every day with required materials, assignments, and questions ready, and with a great attitude.
2. Respect others, the equipment, and yourself. That means following safety recommendations and washing your hands at the end of class **AFTER** you have wiped down your desk and anything else you touched in class.
3. Follow all WFHS rules.
4. **Absences:** Absences are a fact of life. Try to make up work ahead of any absence if possible. It is **YOUR** responsibility to make up what you have missed ASAP. The WFPS absence policy will be followed in reference to the 10- day absence rule.
5. **Cell phones:** The WFPS cell phone policy will be enforced. Cell phones are to be put away and silenced during the duration of class time. Infractions will follow the guidelines set forth by the WFPS.

**OUT OF SIGHT – OUT OF USE.**

## Course Resources

1. **Schoology:** Starting point where weekly expectations and links will be accessed.
2. **EdPuzzle:** Site through which some video notes will be presented
3. **Online Textbook:** Unless requested, your only textbook will be the online version. Instructions on how to access can be found on my Schoology site in the Welcome Folder.
4. **Quest:** This is an online homework system we will use all year. You are given 7 attempts to answer a problem. Make sure you DO NOT round as this system is picky. **You MUST turn in your work for all the problems on the due date (Upload to Schoology)**  
**Class code:** Per 4 – 42223; Per 6 – 62223; Per 7 - 72223
5. **Remind:** This is a text/email-based app that I use to send reminders about quizzes, tests, projects. I may occasionally forget to send out a reminder, but it is **YOUR** responsibility to follow the lesson plans found on Schoology.  
For your class, text the following message to 81010: Per 4- e8cd3eh; Per 6- a32e4k; Per 7- hgk2eac
6. **Classkick:** This is the program we will use to collaborate on whiteboards. Link will be on Schoology.

## Course Grading

I will only give credit for **work shown** with correct units on answers. LATE WORK IS **NOT** ACCEPTED. White boards and lab reports will be due each week by Friday night at 11:59 pm, Quest homework and quizzes will be due each week by Sunday night at 11:59pm. Online grades are updated frequently. Please check to make sure that no mistakes have been made. You are expected to be an active participant in this class. There are never any dumb questions or answers. All I ask is that you always try to do your best.

### 1. Assignments/WB/Quizzes (20%)-

- a. **Homework** is just considered practice for the exams, but VERY important for you to make sure you know what you are doing. Online homework is done through Quest. You MUST turn in your work for full credit.
- b. **Whiteboard problems** are worked on in class in groups. Each set of WB problems will earn you 0, 5, or 10 test points depending on how you are participating. If you are absent on a WB day, you must complete the WB problems by the weekly due date to earn the points.
- c. **Quizzes** will be weekly and are **open note** but not open friend.

### 2. Labs (30%) Complete each lab.

### 3. Exams/Projects (50%)

- a. **Exams** will be composed of problems and performance assessments.
- b. **Projects** will be assigned as time permits and they meet the curriculum requirements.

- Grade scale is one used by all of WFHS and is found in the students handbook

A 90-100%      B 80-89%      C 70-79%      D 60-69%      F below 60%

Let the FUN begin!!!!