

### **Course Description**

Physics a laboratory course focusing on forces, motion, and energy. Physics is an essential course for students planning to pursue a science or mathematics related major or minor in college.

Physics HN is an honors level course. This course is also available in the Program of Studies at the College Preparatory level. Students earning credit for an Honors level course receive an elevated number of Quality Points for their Grade Point Average. Students choosing the Honors level course should be aware that this Honors level course will include:

- Required extension opportunities that are directly related to the Standard Course of Study. This includes additional content beyond that covered in the College Preparatory level.
- More challenging coursework and assessments. Students will be expected to demonstrate higher levels of understanding for grades.
- Projects and presentations will be more in depth.
- Students will have to focus and study regularly to master the content.
- The expectation that students can move through the coursework at an accelerated pace and students experiencing difficulty should quickly seek guidance from their teacher on how they can be more successful.

Example of Honors Differentiation in this course:

Honors Objective

Analyze motion in two dimensions using angle  
Of trajectory, time, distance, displacement,  
velocity, and acceleration.

College Prep Level Objective

Explain motion in two dimensions using angle of  
trajectory, time, distance, displacement, velocity, and  
Acceleration.

### **Course Materials**

Students are expected to bring the following materials to class each day.

- Pencil and a composition notebook
- Calculator (scientific is fine, graphing is better)
- 3 ring binder for class notes
- Your best effort

### **Instructional Philosophy**

The goal of the course is to provide students with a general background in physics that will lay the basic foundation for future AP classes or college courses. Instruction will be delivered mainly through lecture, in-class practice problems, and laboratory experiences. Students are expected to practice good note taking, work well with their peers on in-class assignments, and to apply their knowledge in the laboratory while following all safety instructions. Safety in the laboratory is very important and goofing off in lab will result in detention or a discipline referral as well as a zero on the lab assignment. All students will sign a lab safety contract at the beginning of the semester.

## Course Standards

|   |         |
|---|---------|
| Unit 1 Introduction, Safety, and Data Analysis              | 6 days  |
| Unit 2 One Dimensional Motion                               | 8 days  |
| Unit 3 Vectors, Two Dimensional Motion, and Circular Motion | 10 days |
| Unit 4 Forces in One Dimension and Two Dimensions           | 13 days |
| Unit 5 Energy   | 7 days  |
| Unit 6 Momentum and Collisions                              | 6 days  |
| Unit 7 Waves and Sound                                      | 6 days  |
| Unit 8 Light and Electromagnetic Radiation                  | 6 days  |
| Unit 9 Electrostatics                                       | 5 days  |
| Unit 10 Electric Current                                    | 6 days  |
| Unit 11 Magnetism and Electromagnetism                      | 7 days  |

Additional information about the course standards can be found at the web address below:

<http://www.ncpublicschools.org/docs/curriculum/science/scos/support-tools/new-standards/science/physics.pdf>

## Assignments

Assignments are to be completed by the beginning of the block on the due date. **I do not accept late work!** You will make arrangements for missed work according to the school policy. I accept little responsibility for work that you have missed, since it is your responsibility to get your assignments and make sure they are turned back in to me in a timely manner.

## Assessment and Grading Plan

A variety of assignments contribute to the final six weeks grade in this course. The final letter grade is assigned according to UCPS grading policy. (A= 100-90%, B= 89-80%, C= 79-70%, D= 69-60%, F=59% or below.)

My grading policy is a percentage system. Each assignment is graded out of 100%. Homework and classwork will count towards 40% of your grade and quizzes and tests will count 60%.

Homework and class work may be collected and graded either for completion or accuracy. At times, these assignments will not be graded, but we will go over the answers in class. Quizzes will take place periodically to assess understanding and may be announced or unannounced. Tests will be scheduled at the end of every unit

Make sure that you **show all your work** for every problem, including the formulas used, given information, and units. Partial credit will be awarded if your work shows that you were on the right track but ended up with the wrong answer.

Honors level assessments will include both multiple choice questions and short answer, multiple step problems that require the student to show their work and explain how they arrived at their answer.

A grade of 1 in the gradebook indicates an assignment that can be made up and still receive full credit. A grade of 0 in the gradebook indicates an assignment that can no longer be made up for credit.

## Behavior

Classroom Expectations: (In addition to the UCPS and CATA rules)

- Come to class prepared.
- Always follow directions.
- Show respect for yourself, other students, and the teacher.

Consequences for inappropriate behavior:

1. Warning

2. Repeated warnings will result in referral to administrator OR direct referral if necessary according to Student handbook

### **Online Learning Platform**

**Canvas:** Some assignments will be submitted on our new "learning platform," Canvas. Assignments can be submitted a variety of ways including, uploading files, typing into text boxes, and sharing Google documents/presentations. Individual assignments will indicate which method of submission on Canvas is expected. If students need a refresher or have questions, they can access the [Canvas Student Guide](#) for specific instructions. It is the student's responsibility to ensure assignments are submitted on time and to contact the instructor if there is a problem. The Canvas Learning Platform logs every student log-in on Canvas which provides teachers with a list of when students log-in to Canvas using their user id.

Canvas is used to grade assignments as well, however, the grades in Canvas, while accurate to that assignment, are NOT the teacher's gradebook. The teacher's gradebook includes categories of assignments that may be weighted differently and may include grades for assignments that did not use the Canvas Learning Platform. Therefore, students and parents should always check their child's true average on the Parent Portal on Powerschool.

### **Outside Help**

This class moves fairly quickly, you are encouraged to seek help early and often if you are struggling in this course. I am here by 7:30 AM Monday - Thursday if you need help. I can help after school by appointment only.