

Physics Syllabus

Teacher: Mr. Bernreuter

Website: jbernreuter.asuprep.weebly.com

Weekly plans are always posted by Sunday night

“Science is a way of thinking much more than it is a body of knowledge” – Carl Sagan

Office Hours: After school by appointment

Introduction

Physics is the study of the natural world and the creation of models that help predict or explain events. In this class students learn how to investigate and think critically about the concepts of Electricity, Mechanics, and Waves.

By investigating the concepts, students will:

- Develop a sense of wonder and curiosity about the physical world
- Discover and understand the primary laws of nature
- Develop the ability to apply abstract mathematics to concrete events
- Develop problem solving skills
- Develop the ability to communicate using precise physics language

Supplies

Please have the following materials with you every day in class:

- Expo dry erase set (4 markers)
- 3-ring binder
- Pens, pencil and straight edge
- Calculator

Classroom Expectations

Please **remove and put away** headphones/earbuds **upon** entering the classroom.

Phones must be stowed at the beginning of class, and should not be utilized by students during class, unless specifically requested by the teacher.

Classroom discussion should be **civilized** and **respectful** to everyone and relevant to the topic we are discussing. Raise your hand to be recognized.

Meaningful and constructive dialogue is encouraged in this class and requires a degree of mutual respect, and willingness to listen.

Since every student is entitled to full participation in class without interruption, all students are expected to come to class prepared and on time, and remain for the full class period.

Homework Assignments

Students receive assignments on a regular basis. Assignments may consist of readings, worksheets, or online activities/reflections.

Worksheet assignments are due at the start of class. If a student is late, their homework is also late. While students are attempting “bell-work” or whiteboarding the questions, the teacher will stamp their homework with a date stamp. Students only get a stamp if they did **every question**. If there are a couple of questions unfinished, there needs to be at least an attempted showing labeled diagram, formulas, and list of variables given.

Then, on the day of the test, the students staple all of their homework together and write their total score on the top of their paper:

- stamp = 5 pts
- no stamp, but complete (either because they finished it late or because they wrote it during class when we were going over it) = 3 pts
- incomplete = 1 pt

For each unit test students will have 2 homework grades: one for the **stamps** and one for the **accuracy** of their homework (also 5 pts for each assignment).

Whiteboarding

Worksheets and lab activities are whiteboarded by students on a regular basis. This scientific dialogue amongst the students is crucial in developing understanding of the concepts. Students' level of participation will be observed and noted. The guidelines below will ensure that all class members gain maximum benefit.

1. Respectful, accommodating, courteous and constructive questioning
2. NO SPECTATORS: Group members serve as scribes, facilitators and clarifiers
3. Add to your notebook after problems have been fully addressed
4. Include enough information for audience to understand what is being asked
5. Any pertinent sketches, graphs or equations should be prominently displayed
6. State the functional relationship between the variables

Skill Checks

Students have a chance to demonstrate their comprehension of previous material **twice a week with Skill Checks**. On Skill Check days one question will be given on a previously-covered topic. These questions can be either in the form of a problem to be solved or can be conceptual questions that require an answer written in complete sentences. Most of these questions will be graded immediately. They will be graded on a 4-point scale described below:

- 4-point scale:
- 1 ----> No real attempt to give coherent answer.
 - 2 ----> Some attempt, but skill/concept not understood.
 - 3 ----> Generally correct process/concept; 1 or 2 small errors.
 - 4 ----> Completely correct answer; showing work and appropriate units.

Each topic will be assessed multiple times, giving students the opportunity to demonstrate improvement over time.

Tests

The standard written tests (mix of short answer problems and multiple choice problems) will be announced at least one week in advance so that students have time to organize and review the concepts.

Grading Policy

Student **Academic grades** will be weighted approximately in the following manner:

Written Assessments (Tests and Skill Checks)	50%
Practical Assessments (Presentations and Lab Activities)	30%
Final Exams (December and May)	20%

The **Effort grade** is comprised of class participation (Whiteboarding, homework, online activity)

You will excel in this class by striving for a deep understanding of the content. Always feel free to communicate your questions or concerns to me, either electronically or in person. I am here to help you succeed!

After thoroughly reading through this document, please sign and date below (the next page). Do not hesitate to contact Mr. Bernreuter with any additional questions.

Website: jbernreuter.asuprep.weebly.com
Weekly plans are always posted by Sunday night

Keep your thoughts positive because your thoughts become your words.
Keep your words positive because your words become your behavior.
Keep your behavior positive because your behavior becomes your habits.
Keep your habits positive because your habits become your values.
Keep your values positive because your values become your destiny.
– Mahatma Gandhi

Contract:

Please review the course syllabus with your parent or guardian. Review the following notes below, and then sign the document. This contract is due by the end of the first week of school.

- Any electronic device, such as **cell phone**, which is not turned off and is not stored during class **will be confiscated**. After the first time, the electronic device will held in the front office and only be released to the parent and/or guardian of the student.
- **One person talks at a time.** When the teacher or a student is addressing the class, they deserve your attention, so please make every effort to respect this request.
- Students will be expected at times to work with a group. Sometimes students will be able to choose their group, other times groups will be assigned. Equal participation from all members of a group is essential to the success of the group.
- Students are expected to contribute to the atmosphere of the class in a positive manner. Calling out, making fun of others, being sarcastic or disruptive in any way will not be tolerated.
- All work will be posted on my school web page (jbernreuter.asuprep.weebly.com) If you have trouble locating a missed assignment, it is your responsibility to ask me to help you so that you may complete missing work.

We have read the Contract and Syllabus, and understand the expectations of this class.

STUDENT'S NAME (PRINTED): _____

STUDENT'S SIGNATURE: _____

PARENT'S NAME (PRINTED): _____

PARENT'S SIGNATURE: _____

PARENT CONTACT INFORMATION DURING SCHOOL HOURS:
