AP Physics 2 (2020-21) Mrs. Buchan

Welcome to AP Physics 2! The goal of this course is to continue your study of physics by actively engaging in the scientific process: observation, hypothesis, testing, and application. Modern day scientists work in collaboration with other scientists in order to solve complex problems. Class work will be primarily group work, and active participation is crucial to your success.

Teacher contact info:

dbuchan@bhpsnj.org (908) 464-3100 x2332

Extra help (when in-person):

- Before school most days after 7 am
- After school most days
- During lunch (2nd half on days 1 and 2, 1st half on day 4)
- Blocks B, E, or F if you have study hall

Extra help (when remote):

- After school most days via Zoom

Textbook:

College Physics, Etkina, Pearson, 2014.

Recommended Book:

5 Steps to a 5: AP Physics 2 Algebra-Based
ISBN-13: 978-1260123296 **ISBN-10:** 1260123294

Required Supplies:

- Pencils & high-quality eraser
- Scientific calculator
- Three-Ring Binder devoted to AP Physics 2 with dividers labeled as follows:
  - Unit 1: Electrostatics
  - Unit 2: Circuits
  - Unit 3: Magnetism
  - Unit 4: Fluids
  - Unit 5: Thermodynamics
  - Unit 6: Optics
  - Unit 7: Wave Optics
  - Unit 8: Modern Physics

Grading and Activities (Subject to change in remote instruction):

Your course grade will be determined on a **total points** basis, and will be based on homework assignments, lab reports, quizzes, and tests. All assignments are to be completed individually unless you are told otherwise. The point values will generally correspond to the following percentages:

Activity	Percentage
Homework & Projects	15%
Remote Instruction Classwork	TBD
Lab Reports	20-25%
Quizzes & Tests	60-65%

Class Expectations:
During remote instruction you are expected to be seated at a desk or table, with all of your supplies available, and be fully engaged in the lesson just as you would be if you were in the classroom. Your camera should be on, and you will frequently be called on to participate in the discussion or respond to questions during Zoom meetings. Your grade in the class will be partially based on your completion of assignments during the Zoom meetings, and credit for late submission of these assignments will not be permitted except in the case of documented absences.

Description of activities:

Homework: Research shows that when you reflect on new information within the first eight hours, you increase the chances of making permanent connections in your brain. A brief conceptual homework assignment will be given daily, composed of both multiple choice and free response questions. Your answers must be submitted via Google classroom, and you will receive individual feedback on your responses. There will also be occasional assignments in AP Classroom. Additional practice problems will also be provided for each unit which will not be checked, but effort on these problems is highly correlated with content mastery and high test scores. We will generally not discuss the homework problems in class, so it is your responsibility to ask questions or come for extra help if needed.

Quizzes: Occasionally there may be a short quiz based on the topic we are currently studying. Quizzes will generally be announced, usually two days in advance. The purpose of the quizzes is to help you assess your understanding of the unit concepts. Corrections for points recovery is available.

Lab Reports: You must keep notes for all of your lab investigations. You must describe the experiment you perform, record and analyze all data, and answer any questions from the assignment sheet. While the design and performance of a lab investigation is a group task, the lab report you submit must be your own work, written in your own words.

Tests: All test dates will be announced approximately one week ahead. Your overall grade in the class is primarily based on your test grades. You will have the opportunity to make test corrections to improve your grade. To recover points lost on a test, you must submit the corrected solutions to all of your incorrect problems, along with a short explanation of what you did wrong, how you corrected it, and what you have learned. You can recover up to 25% of the points lost initially. The AP Physics Test Correction Form must be used. This will be explained after the first test.

Topics to be explored (order may vary):

Topic	Chapters	Topic	Chapters
Electrostatics	14 & 15	Thermodynamics	9, 12 & 13
Circuits	16	Optics	21 & 22
Magnetism	17 & 18	Wave Optics	23 & 24
Fluids	10 & 11	Modern Physics	25 – 28

The AP Physics 2 test is scheduled for Friday May 7, 2021.