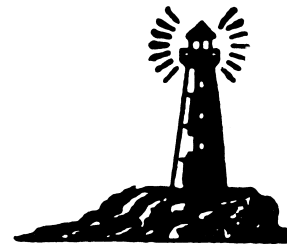




HULL HIGH SCHOOL
Kathryn Lidington
Science Teacher

180 Main Street, Hull, Massachusetts 02045
(781) 925-3000 Fax (781) 925-3071
klidington@town.hull.ma.us



**HONORS SENIOR PHYSICS
2021-2022**

Dear Parents and Students,

First off, a quick introduction: my name is Ms. Lidington and I will be your Honors Physics teacher this year. This is my thirteenth year teaching at Hull High School, and I also grew up as a “Hull kid” and graduated Hull High myself in 2002. For those who haven’t been in my classroom before, it will quickly become obvious that I am passionate about all things physics (and science in general, and history and English and math, so if you need a hand in any other classes, keep in mind I’m happy to help)! This class will cover many of the same topics that you covered in Introductory Physics, but instead of limiting ourselves to one dimension and algebra, we’ll branch out into two dimensions and begin to solve problems using trigonometry and functions. If that sounds scary, it won’t be. We’ll also have fun exploring the complexities of different physics concepts in more depth than you did in ninth grade. More importantly, you’ll be developing the investigative skills that scientists need in their jobs every day. There will be a lot of problem solving, research, experimentation, and some word problems, yes. There will also be a lot of report writing to brush up your scientific writing skills. My goal is to engage you in the process of “doing” science and to communicate fundamental physics concepts so that you can better understand the universe around you and your place in it. To that end, I will do my best to create an environment where this is possible, but it also means I expect best efforts from all of you.

Attached you will find course requirements and classroom expectations that are essential for a successful year at Hull High School and in my class. Your first homework assignment is to read and sign the final page and return it. If you have any concerns or questions, please feel free to email me at klidington@town.hull.ma.us. I look forward to an amazingly fun, challenging, and successful school year with all of you!

Sincerely,
Ms. Lidington

“There are few things we enjoy more than complicating — or upending — the most common, fundamental assumptions about how the world works. It’s not that we want to upset you. Rather, those assumptions, though reasonable on their face, are often misleading, out of date, simplistic or just wrong. And, usually, we find that once you see how things really work, lots of seemingly intractable problems or unsolvable mysteries about the world become easier to figure out.”

-Max Fisher and Amanda Taub

HONORS SENIOR PHYSICS SYLLABUS
(All the Super Important Information)
2021-2022

Skills Utilized:

1. Thinking logically and analytically.
2. Forming ideas and drawing conclusions based on facts.
3. Using and interchanging conceptual and mathematical models of the world.
4. Problem solving. Lots and lots of problem solving.
5. Formal scientific writing and communicating scientific knowledge.
6. Researching facts and solutions.
7. Reading and analysis of complex scientific information.

Course Content:

Concepts covered in the course vary based on many different factors, but we will certainly cover motion, forces, energy in all of its guises, energy transfer, and circuits. Beyond that, there are lots and lots of very interesting topics we can delve into, and it will depend on you as a class to decide which ones you want to learn about.

Materials Needed:

1. Notebook (preferably a composition notebook with graph paper)
2. Calculator (preferably a graphing calculator or graphing calculator app)

Course Breakdown:

1. *Problem Sets*

Problem sets on relevant concepts will be assigned weekly. All work and final answers should be recorded in your notebook, to be graded when it is collected.

2. *Investigations*

You will record all aspects of your work to complete assigned challenges in your notebook. This includes diagrams, models, mathematical equations, procedures, results and data tables, data analysis, and conclusions. Your ability to communicate scientifically will be graded each time your notebook is collected.

3. *Reports*

Each time a challenge is completed, you will summarize your scientific process in a written report which will be graded for both content and scientific writing skills.

4. *Tests*

Occasionally, sadly, there will be tests. Responses will be graded for accuracy.

5. *Final Essay*

Your final in this class will be an essay on a complex physics topic of your choice. You will be given time each month to work on this essay, and your progress will be graded.

(Grades are entered into Aspen under a Total Points system.)

Classroom Expectations:

- Bring a charged Chromebook to class.
- Cell phones will come in very handy in this class. You can research concepts, look up unfamiliar vocabulary, find handy diagrams and instructional videos, solve equations, record video of experiments to extrapolate data, and share information amongst group members. What you may NOT do is use them for purposes other than those listed. If you are caught using your cell phone to text friends, play games, watch sports, etc. it will be confiscated and sent to the office after one warning.
- You are allowed water in this class. Food is not allowed and will be thrown out if I see it. This is less because of the science and more because of the ants.
- Come to class on time and prepared. Lateness will not be tolerated and will result in detention.
- When absent, you are responsible for both finding out the work you missed and for completing it.
- Plagiarism or cheating results in a zero and a referral to the office. This includes virtual work.
- Always respect each other and the teacher, but please, most of all, respect yourself. You are capable of this, I promise.
- Keep your mask on for the duration of class. Mask breaks will be at the teacher's discretion.
- Please note: ***This is an Honors level class.*** As such, I expect all work to be completed on time and without fuss, the quality of the work to be superior, and participation to be enthusiastic any time we are working remotely. You should also have a strong math background and be able to work competently on your own. If you feel a case of senioritis is in your future, or that you will otherwise not be able to meet these standards, please find a more appropriate class/level for this year.

Please put this syllabus in your binder and refer to it when necessary.

HONORS SENIOR PHYSICS SIGN-OFF SHEET
2021-2022

I, _____ (student) have read the Senior Physics Syllabus in its entirety. I understand the requirements of this Physics course. I recognize that I am responsible for my grade in Physics.

Student's signature: _____ Date: _____

Parent's signature: _____ Date: _____

Parent's Phone #: _____

Parent's Email: _____