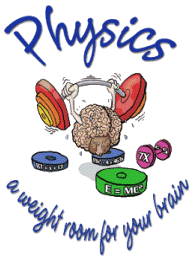
Honors Physics 1

Syllabus

Mr. Webber
webbert1@duvalschools.org
www.Physics-is-Phun.org/home



Course Description

You can't play a game if you don't know the rules, and the more you know the rules the more you enjoy the game. Physics is the study of nature's "rules" – the rules and laws governing the universe in which you are a part. So, to learn physics is to learn about ourselves and the arena of physical and natural laws that govern all aspects of our lives, from the atoms within our cells to the motions of galaxies and the energies in distant quasars!

Honors Physics 1 examines, in depth, topics in Classical Mechanics, Electromagnetism, and Modern Physics. My goal is not to "teach to the test;" rather, it is to teach the subject and cognitive skills that go along with it. When striving for that goal, testing becomes secondary and a natural extension of the learning process.

This course will also teach you to become critical thinkers and develop analytical reasoning that will give you problem-solving skills that apply across all disciplines. There will be many practice problems, and assessments – it is imperative that you complete all work to the best of your ability. Physics is learned by doing, not by watching.

Cell Phone Policy

It is Duval County School's policy that cell phones are to be turned off and out-of-sight during the school class and I am in full agreement with this policy. Earbuds may not be worn during class. If worn outside of the building have only one ear covered. This is for your safety and for the safety of others.

Major Units of Study

Characteristics of Science; Motion in one- and two-dimensions; Forces; Work and Energy; Heat and Thermodynamics; Mechanical Waves and Sound; Electromagnetic Waves and Optics; Electricity, Magnetism, and the Electromagnetic Forces; Modern and Atomic Physics; and Nuclear Physics

Materials

Textbooks: *Florida Physics*. McGraw Hill, Columbus, Ohio. 2025.

Serway, Raymond and Faughn, Jerry. *Florida Physics*. Houghton Mifflin Harcourt Publishing Company. Orlando, Florida. 2019.

Other textbooks and resources may be found on the website.

Student Supply Information: Paper and binder, pencil (mechanical would be best), calculator (scientific)

Grading

Formative Assessments: 40% Summative Assessments: 60%

For a formative assessment, each question/problem is worth 10 points. All work must be shown. In general, the following rubric is used for problems:

- Solution is completely wrong, but an attempt was made with work shown: 2-4 points
- The physics used is correct but with a math error: 8 points
- Answer provided with no work (correct): 5 points
- Answer provided with no work (incorrect): 0 points
- Question or problem left blank: 0 points

Summative assessments (quizzes and tests) are often a combination of multiple choice, short answer, and problems.

In following with Douglas Anderson School of the Art's guidelines, grades will be assigned as follows:

A: 100-90 B: 89-80 C: 79-70 D: 69-60 F: 59-0

Attendance and Tardies

- As with any educational endeavor, attendance, participation, and involvement are essential to the learning process. Your comprehension and understanding depends on you being here.
- You are expected to be in your seat and ready to begin when the bell rings. If not, you will be marked tardy. Three tardies will result in disciplinary action.
- If you are tardy, you must sign the log sheet at the front of the room.

Honors Physics 1 Late and Missed Work

- Work is expected to be turned in on the due date. You will have class time to work on formative assessments, and they are often due at the beginning of class the following class. Late work will be reduced to 75%. No work will be accepted after a unit test and will result in a 0 in the gradebook.
- If you are absent, it is your responsibility to reach out to either the instructor or a colleague for any missed notes or assignments.
- If you miss a laboratory exercise with an excused absence, you may be exempted from the work (to be determined by the instructor).
- The Student Handbook outlines the policies regarding excused absences and make-up work. Communication and transparency with me is very important.
- If you have an excused absence and need to make up a test or quiz, it is by appointment only outside of class.

Bathroom Passes

- Use the bathroom before coming to class.
- If excused to use the bathroom, you must fill out the log sheet and wear the appropriate badge. These badges are color-coded for each building – you may not leave Building 16!
- When leaving class, you must leave your cell phone.

Food and Drink

- In accordance with Florida Law, no food, gum, or drink is allowed in a lab room.

General Classroom Guidelines

- We practice and expect respect at all times – to our teacher, our classmates, and ourselves.
- We come to class prepared and excited to learn.
- We appreciate the value of education.
- We work to maintain a positive learning environment.
- We strive to do our best.
- We believe in academic integrity.
- We will keep our classroom and supplies neat.

General Classroom Procedures

- We arrive to class on time, enter in a respectful way, and begin any bell work.
- We raise our hands to be recognized.
- We do not leave our seats unless given permission.
- We do not leave our trash on the floor. Trash is to be thrown out at the end of class.
- We do not eat, drink, or chew gum in this classroom.
- No cell phones or tablets!

General Classroom Policies

- Work is to be turned in on the due date. Late work is subject to a 50% penalty.
- No work will be accepted after the unit test.
- **Any act of cheating results in a grade of 0 and an automatic referral. No exceptions.**
- Do not arrive late for class.
- Behavior that is not compliant with the student handbook will be addressed by the procedures outlined in the handbook.

Year-At-A-Glance

QUARTER 1

Unit 1: Motion
Timing: Approximately 9 days

Standards	Lessons
SC.912.P.12.2 SC.912.N.1.7 SC.912.N.3.5	Scalar Quantities
SC.912.N.1.1 SC.912.N.1.2 SC.912.N.3.5 SC.912.N.2.3	Measurement
SC.912.P.12.2 SC.912.P.10.21 SC.912.N.2.2	Average and Instantaneous Speed
SC.912.P.12.1 SC.912.P.12.2 SC.912.N.2.4	Scalar and Vector Quantities
SC.912.P.12.1 SC.912.P.12.2 SC.912.P.12.9 SC.912.N.4.1	Acceleration

Unit 2: Force and Motion Part I
Timing: Approximately 8 days

Standards	Lessons
SC.912.P.12.3 SC.912.P.12.9 SC.912.N.3.3	Newton's First Law
SC.912.P.12.2	Accelerated Motion
SC.912.P.12.1 SC.912.P.12.3 SC.912.N.3.5	Newton's Second Law
SC.912.P.12.3 SC.912.P.12.8 SC.912.N.3.1	Newton's Third Law

QUARTER 2

Unit 3: Force and Motion Part II
Timing: Approximately 7 days

Standards	Lessons
SC.912.P.12.1 SC.912.P.12.2 SC.912.N.1.6 SC.912.N.3.5	Projectile Motion Part 1 Part 2
SC.912.P.12.3	Friction
SC.912.P.12.3	Centripetal Force and Acceleration

Unit 4: Momentum
Timing: Approximately 8 days

Standards	Lessons
SC.912.P.12.5	Linear Momentum
SC.912.P.12.5	Conservation of Motion
SC.912.P.10.1 SC.912.P.12.3 SC.912.P.12.5 SC.912.N.3.5 SC.912.N.4.1	Impulse Momentum Theorem
SC.912.P.12.6	Angular Momentum

Unit 5: Energy Part I
Timing: Approximately 4 days

Standards	Lessons
SC.912.P.12.1 SC.912.P.12.2	Motion and Energy
SC.912.P.10.1 SC.912.P.10.2 SC.912.P.12.2	Types of Energy
SC.912.P.10.1 SC.912.P.10.2 SC.912.P.10.6	Conservation of Energy

QUARTER 3

Unit 6: Gravity
Timing: Approximately 2 days

Standards	Lessons
SC.912.E.5.2 SC.912.E.5.6 SC.912.P.12.3 SC.912.P.12.4 SC.912.N.1.5	Newton's Law of Universal Gravitation

Unit 7: Energy Part II
Timing: Approximately 6 days

Standards	Lessons
SC.912.P.10.3	Work and Power
SC.912.P.10.1 SC.912.P.10.2 SC.912.P.10.3 SC.912.P.10.8 SC.912.P.12.1	Force and Energy
SC.912.P.8.1 SC.912.P.8.3 SC.912.P.8.4 SC.912.P.10.4 SC.912.P.10.5 SC.912.P.10.7 SC.912.P.10.8 SC.912.L.18.12 SC.912.N.3.1 SC.912.N.3.2 SC.912.N.3.4	Thermal Energy

Unit 8: Waves
Timing: Approximately 12 days

Standards	Lessons
SC.912.P.10.20	Properties of Waves
SC.912.P.10.20	Sound Waves
SC.912.P.12.7 SC.912.P.10.22 SC.912.P.10.18 SC.912.E.5.8 SC.912.N.3.2 SC.912.N.1.5	Electromagnetic Spectrum
SC.912.P.10.22	Reflected Light
SC.912.P.10.22	Curved Mirrors
SC.912.P.10.22	Refracted Light
SC.912.P.10.22	Lenses
SC.912.P.10.21	Doppler Effect

QUARTER 4

Unit 9: Electricity
Timing: Approximately 13 days

Standards	Lessons
SC.912.E.5.2 SC.912.P.8.3 SC.912.P.10.13	Coulomb's Law
SC.912.P.10.1 SC.912.P.10.13	Energy Transformations
SC.912.P.10.15	Circuits
SC.912.P.10.15	Ohm's Law
SC.912.P.10.14 SC.912.P.10.15	Power
SC.912.P.10.16 SC.912.P.10.17 SC.912.P.10.18	Electromagnetism
SC.912.P.10.16 SC.912.P.10.17	Electromagnets

Unit 10: Nuclear Physics
Timing: Approximately 2 days

Standards	Lessons
SC.912.P.10.10	The Strong Force
SC.912.P.10.1 SC.912.P.10.2	Binding Energy

Acknowledgements

Please read and fill out this acknowledgement page and return to Mr. Webber. Keep the syllabus for your records.

I, _____, have read the syllabus for Honors Physics
Name of Student

1. I understand Mr. Webber's Guidelines, Procedures, and Policies, including the use of cell phones and tablets, and the expectations of me, including the time and work expected outside of class. I also understand the discipline and academic consequences for not living up to those expectations. I recognize that the science of physics is very demanding and rigorous and that it will require discipline, planning, and studying on my part.

_____ _____
Signature of Student Date

As the parent(s)/guardian(s) of the above named student, I/we also understand the Guidelines, Procedures, and Policies of Mr. Webber's class. In addition, I/we understand the academic demands of the course and will provide support to our student, Mr. Webber and the class as a whole.

_____ _____
Signature of Parent/Guardian Date

_____ _____
Parent/Guardian Email Phone