



Dallas High School Home of the Dragons



Physics of Force and Motion

2022-2023

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Office Hours: Mon-Friday 7:30-8:20am, generally after school 2:35-3:30. Additional meetings by appointment.

Course Description: Welcome one and all! In this course, you will, precisely define the most fundamental measurable quantities in the universe (e.g., Motion and Force) and find relationships between those quantities. These patterns and correlations are expressed using words, equations, graphs, charts, diagrams, models, and any other means that allow us to express a relationship. Topics covered include lab safety, conversions, movement, kinematics, projectile motion, momentum, inertia, various forces, angular momentum, torque and more. Phew! But don't worry we will have fun doing it all.

Course Outline 2 “Big Ideas” will be addressed in each unit, and on each Unit test

	Unit Topic	Summative Assessment
Unit 1	Conversion, Movement, Vectors and Scalars	Unit 1 Test
Unit 2	Kinematics	Unit 2 Test
Unit 3	2 Dimensional Motion (Projectile!)	Unit 3 Test
Unit 4	Forces and Newton's Laws of Motion	Unit 4 Test
Unit 5	Rotational Motion and Forces	Unit 5 Test
Unit 6	Momentum, Inertia and Impacts	Unit 6 Test

Standards to Be Assessed:

Big Idea 1: Scientific Inquiry- *How does the process of science actually work?*

- Can you create a sound scientific hypothesis using observations?
- Can you design and conduct a controlled experiment, field study, or other investigation to make systematic observations about the natural world, including the collection of sufficient and appropriate data?
- Can you analyze data and identify uncertainties in order to draw a valid conclusion that is supported by evidence?
- Do you understand that science is built upon the work of other scientists and is always changing based on new observations, questions, and technological advances?

Big Idea 2: Engineering and Design- *Can you design a valid scientific experiment?*

- Can you design an experiment that answers your questions while incorporating various trade-offs in time, money, ethics, public opinion, and other resources?
- Can you analyze data and determine the best conclusion or alternate scenarios?
- Can you refine your experiment to better answer your question and address future research needs?

Career Related Learning Standards: Career-related learning standards (CRLS) are fundamental skills essential for success in employment, college, family, and community life. We have integrated the Personal Management standard from the CRLS into all courses at DHS. **This standard will be assessed and communicated independent of the academic grade.** It is included below and mainly includes behaviors that will be assessed in this course.

- **Personal Management Standard:** Exhibit appropriate work ethic and behaviors in school, community and workplace.
 - Students will identify tasks that need to be done and initiate action to complete the tasks.
 - Students will plan, organize and complete projects and assigned tasks on time, meeting agreed upon standards of quality.
 - Students will take responsibility for decisions and actions and anticipate consequences of decisions and actions.
 - Students will maintain regular attendance and be on time daily.
 - Students will maintain appropriate interactions with colleagues.

Grading and Assessment:

A student's final grade for each course will be broken down as follows.

A	-	90% - 100%
B	-	80% - 90%
C	-	70% - 80%
D	-	60% - 70%
F	-	0% - 60%

- Any tests may be retaken **once**, and the higher grade recorded. All **retakes need to be done within 2 weeks of the test grade being entered into the grade book.**
- Students will complete extra preparation before retaking an assessment.
- **Work turned in late may be reduced by up to 50% credit if turned in within two weeks of due date.**
- **Work turned in late after 2 weeks of the due date will not be accepted.**

Academic Integrity: We expect students to express academic integrity by doing their own work and properly documenting information gathered from other sources. Students who violate the principles of academic integrity will be subject to disciplinary consequences and receive a zero for that assignment/assessment and it will not be able to be retaken. (see Insubordination section of the on-line student agenda). Just do your own work, don't cheat and all will be good!

Tardies and Unexcused Absences: Being present in class is the first step to being successful in that class. Students are expected to be present in class daily and on time. If a student is going to be absent they are expected to communicate to let the instructor know either verbally or via email. If students are late to class or have unexcused absences, they are to communicate with the attendance office to get those excused. Any work that must be completed in class such as warmups will not be posted on canvas and students need to be present in class that day to receive those points unless an excused absence is discussed beforehand with the teacher.

Cell phones: Cell phones are common; I have one and you probably have one. Let's agree, though, cell phones can be the #1 source of distraction for students in class. We need to be very careful about when and how we use them. Upon entering the classroom, all students who are in possession of an electronic device are expected to silence them and put them away during instructional and work time. If a student refuses they will be referred to the main office for Dallas High School's disciplinary action. If a student is caught using, or even touching, a cell phone while they have a test, they will be given a zero and parents contacted. No question. There will be times when cell phones are used in this class and it is appropriate for students to have them out, it will be communicated to students when those times will be.

Classroom Management Points: We want students to respect and take care of and have pride in their school and community. To help with this, at the beginning of the year every student will have 10 points labeled “Classroom Management”. These points will remain theirs but may drop in the event that students leave a mess at their workstation, leave class often or for extended periods of time, or other instances like this. If students are in class, clean up after themselves and don’t leave the classroom for extended periods of time then this will take care of itself.

Classroom Needs:

All students will need the following items:

- Calculator (one with a square root button, and the SIN, COS and TAN function and shows scientific notation)
- 70 page, single subject, spiral bound, college ruled notebook
- Dry erase marker(s)

Parents: Please keep the rest of the syllabus By signing this form, you acknowledge that you have read and fully understood the expectations, rules, and standards associated with physics. If you have questions, please call 503-623-8336 ext. 2916 or email using the email address provided in this document.

Parent Name: _____

Parent Signature: _____

Parent email Address: _____

Parent Phone: _____

Student Name: _____

Student Signature: _____

Class Period: _____