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| Physics  2017-2018 |  | Instructor: Jessica Stapleton E-Mail: jessica.stapleton@cusd4.com Phone: 217-936-2116  Website: cusd4biology.com |
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| Overview This class will build upon concepts/ideas that were introduced in physical science. Students will explain more in-depth phenomena. Students will develop and use models, plan and conduct investigations, analyze and interpret data, use mathematical and computational thinking, and construct explanations to demonstrate an understanding of 4 core ideas. Goals We will be focusing on 4 core ideas or units. They are matter and its interactions, motion and stability, energy and waves and their interactions. We will be taking a concept based approach to these topics. Students will be expected to perform algebraic equations as well as manipulate them. There will be several mini units/tests within the larger units as a whole.   * Matter and its interactions: we will be discussing the transfer of heat in thermodynamics and the interactions of electrons through electricity and magnetism. * Motion and stability: we will be studying dynamics and kinematics. Students will learn and understand the difference between mass and weight, the interactions between all objects through forces and Newton’s Laws as well as Coulomb’s Law. * Energy: students will understand the definition of energy. They will explore energy both macroscopically through light, waves, motion and sound as well as microscopically. Students will understand that energy is conserved: it cannot be created or destroyed; rather it is transferred. We will also study forces and energy and how they relate. * Waves and interactions: students will study wavelength and frequency through heat, sound and springs. Students will also understand electromagnetic radiation and how waves change.  Expectations Students are expected to follow all directions and behave accordingly:   * Be responsible: students are expected to have all materials and homework every day in class, unless told otherwise. Students will be expected to follow all safety protocol while performing lab investigations. * Be respectful: students are expected to treat each other and me as they would like to be treated themselves. No harsh words, profanity or name calling will be tolerated. * Be engaged: students are expected to be engaged in the lesson each day. This means actively listening to group members, those presenting or me and contributing to the discussion when appropriate. |  | Materials Students should bring the following to class every day   * Laptop: Physics Textbook * Protractor * Calculator with trig functions * Notebook: must be graph paper * Colored pencils  Milestones Laboratory Report  Several Formal lab write-ups  Physics Olympics  Several times throughout the year students will be completing challenges based on their knowledge of what they are learning. |

Student Contributions/Evaluation

1. Participation/Assignment (15%)— Attendance and participating in class discussions is critical to your understanding. You are responsible for knowing what transpires in class, which may ***include in-class assignments***, announcements of assignment due dates, and other information. Homework assignments are also graded in this category.
2. Lab (30%)—Student attendance in lab is required. Students are required to make up missed lab sessions. Students will work in small groups to complete assignments, but individual lab reports must be submitted. The lab portion of the grade will be based on lab behavior, lab reports and assignments.
3. Quizzes (20%)— Students will have quizzes periodically throughout this course, both pop and scheduled quizzes.
4. Exams (35%)—There will be chapter exams as well as unit exams.
5. There is one (1) final. The final is 20% of semester grade.

Grading Scale

100 – 94 A 83 – 80 B- 59 – BELOW F

93 - 90 A- 79 – 70 C

89 – 84 B 69 – 60 D

Classroom Rules: Handbook rules and regulations are expected to be followed as well.

* Be respectful
* Be prepared for class
* Listen and follow instructions
* Believe you can (give it your best everyday)

Cell Phone Policy: All cell phones, MP3 players and other handheld electronics will be placed in a basket at the beginning of class and will be picked up at the end of the class. If caught with a device after class starts I will keep your device for the rest of the day. If your device is taken more than two times I will turn it into Mr. Dorethy.

MacBook Policy: The MacBook will be used frequently, however, on days that it is not being used the Macbook should be placed in the students backpack. Every lab table has outlets in which the students are allowed to charge their Macbook if needed. Games and videos should not be accessed during class time and consequences will follow the student handbook. If a student has their Macbook taken they will not receive extra time on class projects.

Helpful Hints:

Make sure that you check the website daily. I post notes, assignments, tutorial links and lots of other information daily. When you are absent please check the website for the days tasks.

Read over your notes multiple times. On multiple occasions you will be given a short quiz over the notes taken the day before. Your notes should also be reviewed before any tests.

If you are absent it is fully your responsibility to get any missed assignments and/or notes. You are also required to make up labs, tests and quizzes. The length of time given is based off of the student handbook.

If you have any questions or concerns please come see me! I will be available during RTI and 7th hour. I am also available before and after school.

PLEASE DO NOT CHEAT! This is only selling yourself short and makes it more difficult to be successful on the exams. If you do not understand something please ask. If you understand the concept help others, just make sure that you are not giving direct answers. If you have questions or concerns on the assignment, come talk to me before it’s due (like in the morning).

Multiple labs and/or projects are planned with every chapter; however, they will only be assigned if classes are well behaved. I look forward to this year and getting to know each of you!