PHYSICS

Red Rock Central High School 2019-2020

Mrs. Paula Derickson, Instructor

WELCOME to Physics, a one-credit elective science class.

Topics that will be covered in this course include: the nature and history of science, basic science communication skills, computer assisted data collection and analysis, laboratory techniques and safety, dimensional analysis, kinematics, waves and light, electricity & magnetism, and modern physics. The overall goal of this course is to expose you to enough physics that you will feel confident studying it more in depth at a college level.

Grade cutoffs are as follows:

- Above 90% - A (90-93% = A-)
- Above 80% - B (87-89% = B+; 80-83% = B-)
- Above 70% - C (77-79% = C+; 70-73% = C-)
- Above 60% - D (67-69% = D+; 60-63% = D-)

Grade weights will be approximately

- 40% tests/quizzes
- 20% lab work
- 40% daily work/science in the news

These weights are approximate and may change depending on the subject matter and time constraints.

Extra credit: Extra credit will be considered on an individual basis. Please contact the instructor no later than 2 weeks prior to the end of the quarter to arrange extra credit.

My expectations of you:

- **You will come to class ready to work every day**. This means you should bring your textbook, notebook, writing utensil, and calculator to class, whether they will be used that day or not. You may need your computer; I will let you know when to bring it. You will need a blue or black pen for lab. Any other utensil used in writing lab reports will result in a reduction of points.
- **RESPECT.**
    - **You will show respect to your classmates and the instructor**. Examples of this include: listening while others are speaking; keeping hands, feet, and materials to yourself; and making relevant contributions to discussions.
    - **You will respect all materials and equipment** both in the laboratory and the classroom.
    - **You will be respectful of RRC's cell phone policy**. Please place your cell phone, turned to silent, in the designated place for phones and leave it there until class is over. YOU MAY NOT USE YOUR CELL PHONE WITHOUT PERMISSION.
- **You will follow all lab safety rules at all times while in the laboratory**, for your protection as well as others.
- **Your daily work will be turned in on time.** When I give an assignment, my preference is that you finish it and turn it in the next day. However, as seniors, the absolute due date for all assignments for a given chapter is the

day **before** your chapter test. (NOT the day OF the test) It's best to turn it in earlier than that so I can get an idea whether you understand the material.

- **You will always do your best work**. If you don't understand something, please ask. Chances are, someone else wants to ask the very same thing.
- **You will cover your textbook**. If you are unable to obtain a paper grocery bag or stretchable book cover that fits properly, please let me know.

Late work/absences:

- No late work will be accepted for the chapter after the chapter test has been taken.
- If a test is missed due to an excused absence, it will be made up the day you return to class. If class activities prevent making up the test during class time, you will be expected to come in early or stay after school.
- If a lab is missed due to an excused absence, arrangements must be made to make up the lab work before school or after school. Lab makeups must be supervised by the instructor so most study hall times will not work. Missed labs must be made up within 5 class days to receive credit. I will allow one dry lab per semester.
- It is your responsibility to find out what you have missed in the event of an absence.
- If you know in advance that you will miss class, you are expected to do any assignment (and turn it in on time) just as if you were in class.

Rationale:

(The following was taken from the American Physical Society website.)

Physics is crucial to understanding the world around us, the world inside us, and the world beyond us. It is the most basic and fundamental science. Physics challenges our imaginations with concepts like relativity and string theory, and it leads to great discoveries, like computers and lasers, that change our lives.

Physics encompasses the study of the universe from the largest galaxies to the smallest subatomic particles. Moreover, it's the basis of many other sciences, including chemistry, oceanography, seismology, and astronomy. The importance of physics isn't limited to the "hard sciences." Increasingly, physicists are turning their talents to molecular biology, biochemistry, and biology itself. Even medicine has a niche for physicists, and since medical physicists are hard to come by, they are in demand.

Physics also undergirds many new technologies. Cell phones, the Internet, and MRIs are only a few examples of the physics-based technological developments that have revolutionized our world. Many theoretical and experimental physicists work as engineers, and many electrical and mechanical engineers have physics degrees.

A physics education equips a person to work in many different and interesting places—in industrial and government labs, on college campuses, and in the astronaut corps. In addition, many physics grads leave the lab behind and work at newspapers and magazines, in government, and even on Wall Street—places where their problem-solving abilities and analytical skills are great assets.

So—physics is interesting, relevant, and it can prepare you for great jobs in a wide variety of places. When someone asks you "Why would you take physics?" your answer should probably be another question – **"Why <u>wouldn't</u> you take physics?"**

LET'S HAVE A GREAT YEAR!!!!!