

CONCEPTUAL PHYSICS



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Course Description: This course is designed to acquaint students with the ability to explain and predict the outcome of certain interactions which occur between matter and energy. Students will become familiar with the basic concepts of physics and will utilize the scientific method during discovery.

The Salisbury School Honor Code: All work bearing your name implies that you did not receive unauthorized assistance. This includes and is not limited to: exams, quizzes, lab reports, projects, and some homework activities. There will be some class, group and workshop activities that are excluded from this rule.

Four main class rules:

1. **Have all materials* everyday.**
2. **You are responsible for all items posted on the internet.**
 - a. **www.drjdegan.com**
3. **Make sure your area is clean before leaving.**
4. **The three negatives:**
 - a. **NO shouting, or calling across the room.**
 - b. **NO computers during class (unless requested by me).**
 - c. **NO phones, ipods, or games during class.**

Two main lab rules:

1. **No rough play in the lab.**
2. **Never leave a mess.**

Materials* needed everyday:

- **A clasp folder for paper transport**
 - **Should contain all previous work**
- **Text Book**
- **Writing utensil**
- **Calculator:**
 - **Coordinate your calculator requirement with your math materials**

Expectations & Assessments

This class will utilize a point system for determining grades.

40% Class work / Homework

You are responsible to keep all the material I give you in a portable clasp folder. You must put your *name* at the top, *date*, and keep all handouts *in order*. I will give you a table of contents (TOC) coversheet (~ every 5-10 school days) for you to assemble a packet to turn in for grading. Packets will be graded and returned to you as soon as possible. Upon return, packets will then be placed in the 3-ring binder that is on the bookshelves in the physics room

20% Test / Quizzes

Exams will be a combination of selective response questions and brief constructive responses. These exams will focus on the new material and problems from previous topics. A topic study guide will be available online several days prior to the exam for your review. A final exam will be given for your first and second trimester.

A short quiz will be given out periodically to see where you stand with the material. These can be given in any form (e.g. essay, draw a diagram, selective response, etc). They do not need to be announced.

20% Science Labs

Periodically there will be individual or group projects required from you. All projects will include a class presentation. Topics will vary from contemporary issues in science to experimental design and implementation.

Lab Reports

Scientific writing is very different than writing in other disciplines. We will actually violate “the rules” for concise sentence writing by making the object the subject, using past tense and very limited use of pronouns. This shift in writing may be difficult for some, however I make it a priority to demystify the situation and help you become a proficient science writer. So, periodically there will be individual or group lab reports required from you. I will give you specific guidelines for how these should be constructed and I will periodically workshop with you on how to improve your scientific writing. You will be required to present your findings to the class or a middle school science class during the year. These exercises will be instrumental in increasing your scientific communication skills.

20% Trimester Project

An independent scientific project worth 20% of your overall score will be due at the end of the first trimester. This Trimester Poster Project has specific guidelines that must be followed with hard deadlines to maintain student momentum. The trimester project guidelines and assignment deadlines are located at www.drjdegan.com. For the second and third trimester, an exam will be used for this assessment.

Late Work Policy

Points will be deducted for late submissions unless evidence for extenuating circumstances is given prior to submission deadline.

- For daily assignments there is a 30% deduction for a late assignment in the first trimester, 50% the second trimester and 75% the third trimester.
- If a long term assignment is late (an assignment that has been posted on the calendar for over a week), there will be a 30% deduction and a parental notification.

Pedagogic Principles and Approaches

Experiential:

- Organization = 50% of success in science
- Labs, controlled and open ended
- Partner interaction, small group communication, evaluations

Mathematics:

- Formula explanations
- Word problems
- Significant figures – scientific notations

Writing:

- Study of scientific writing
- Content is more important than form
- All lab reports will utilize google.docs
- Rough draft – rubric – self correct

Exploring the Text Book

The text book selected for this class is exceptional for approaching physics. In a very concise way the author explains each topic and introduces mathematical equations and formulas to illustrate the principles. I follow a simple formula when approaching each chapter in the text book:

- 10pts Chapter words in bold written and defined in order as they appear in the text.
- 10pts Annotated reading guide (question prompts that you answer as you read).
- LECTURE – Question answer session
- 10pts Odd number questions in the book (graded for completion)
- 10pts Even number questions (graded for accuracy).

After the annotated reading guide, we as a class go through the chapter, answer questions from the reading guide and explain the terms used in the chapter. The wait time before beginning a chapter and lecturing on the chapter allows you (the student) to become familiar with the terms used in the text so you can provide meaningful input when the lecture begins. Odd numbered problems graded for completion allows you to try the problems. The even problems provide an indicator of their understanding on the material. I usually provide supplemental problems and activities that help emphasize key points in the chapter. Most exams will be of two parts. Part A will be up to 40 multiple choice questions. Part B will be word problems, physics formulas, essays, graphs and images.

Scientific Writing

Use the following rough draft indicators to reread and fix your lab report section.

FFFF- Format/mechanics problem check online guide for correct format.

SSSS- Look closer at this statement and make it easier to read and run a spell check.

WWWW- - Incorrect word choice, rephrase and remove inappropriate word

EEEE - See me

JJJJ- Made too far of a jump from one statement to the next. You need to add a sentence or two to clarify this assumption or transition.

MMMM- Add more information here

- Example of a final draft rubric

LAB1 FINAL DRAFT EVALUATION (example)

Grading rubric:	Possible	Score	Reason
Introduction	10	-2	Forgot in this study paragraph...
Materials Methods	10	-3	No second experiment protocol?
Results	10	-2	Show the actual equation in this section and the results
Conclusion	10		
Figures & Tables format	10 (- 10pts)	-1 -5	equation used to solve- see fig Bold center all caps HEADINGS
TOTAL	50	37	

I have read the syllabus and understand the conditions by which I will be evaluated.

Print your name

Your signature

Print your parent or guardian's name

Your parent or guardian's signature

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Your parent or guardian's email address

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Your parent or guardian's preferred contact phone number