Syllabus for PHYS 211/212

PHYS 211/212 Science/Engineering Physics I,II. Corequisite: Second Semester Calculus. Topics: Vectors, Kinematics, Dynamics, Momentum, Work and Energy, Waves, Thermodynamics, Electricity and Magnetism, Optics, Modern Physics

INSTRUCTOR: Mr. Martin Hackworth (Martin)

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MATERIALS: Bauer & Westfall: *University Physics w/ Modern Physics*, 1st ed., *CRC Standard Mathematical Tables*, a TI-30XA scientific calculator, internet access (the website for this class is: http://www.physics.isu.edu/~hackmart/engphys.htm),
Access to the McGraw-Hill website (homework and quizzes):
Section 01 (Pocatello) http://connect.mcgraw-hill.com/class/m_hackworth_phys211-212_ay1112_s01
Section 02 (Idaho Falls) http://connect.mcgraw-hill.com/class/m_hackworth_phys211-212_ay1112_s02_1
The text, incidentally, is a wonderful book that I think you will find very helpful if you take the time to read it.

OBJECTIVES: To introduce the student to introductory mechanics, wave phenomena, and thermodynamics, to develop problem-solving strategies, to promote critical thinking.

GRADING: This course will be graded on a point system. You may acquire points from the following sources:

1. QUIZZES - A short quiz will be given either before of during most class periods. Questions will be selected from lecture material and sections in the text covering material relevant to what is currently being discussed in class. All quiz points count toward the final total and there are no makeup quizzes given. In class quizzes may be given anytime during the class period. Online quizzes with be administered through the McGraw Hill Connect website before class.

2. EXAMINATIONS - Mid term exams will be given each Friday in section 01 and every other Wednesday in section 02 - except on weeks with Monday holidays. A calculator rule (TI-30XA) is in effect for all exams (see the website). All examination points count toward the final total and no makeup exams will be given. You will not be permitted to take an exam if you arrive after the first person to finish leaves. You must supply a student ID to be admitted to an exam. No ID, no entry. See the website for details.

3. FINAL EXAM - A comprehensive final will be given online through the McGraw Hill Connect website.

4. ASSIGNMENTS - Homework problems will be assigned and graded via the McGraw Hill Connect website. I may award additional points based on class discussion, outside reading, contributions to the communal good, etc.

Note: You are expected to work independently on all assignments given for points in this course. You may use your book for help with online quizzes and homework but any other collaboration is strictly forbidden. You are welcome to ask the tutors for help with examples we discuss in class, or any other homework/quiz problems provided you've already turned them in. Any failure to abide by this policy constitutes an act of egregious academic dishonesty and will be addressed.

Approximate Point Values: Quizzes are worth 5 - 10 points each, exams are worth 15 - 20 points each (01) or 25 - 35 points each (02), the final exam is worth 50 points and assignments are worth 20 - 50 points each.

Approximate point totals:		
	Exams	200 points
	Quizzes	150 points
	Final	50 points
	Assignments	150 points
	550+ points available	

Please Note: Your non-exam points will be capped at 2.5x the number of exam points.

Final grades will be based upon the following scale:

"A" > 425 points
"B" > 350 points
"C" > 275 points
"D" > 200 points

ATTENDANCE/DEADLINES: My attendance policy is that I have none. I believe that our class time will be informative and useful to you. If you choose not to attend class, or if for some reason you are unable to attend class that's all OK with me but your odds of doing well diminish seriously with each absence. As there are numerous opportunities for you to make up lost points from quizzes and exams, and many extra points built into the grading structure, there will be no makeup quizzes or exams. Please don't ask about makeup exams or taking an exam early.

As I am awarding far more points than required to earn even the highest grade I will not extend the deadline for any assignment either online or given in class *for any reason*. I anticipate that occasionally the online system for quizzes and homework may not work properly and I have built extra points into the system to account for this.

Please do not email me about issues with the Connect system, or to ask for extensions, makeup's etc. Please DO email me if we've entered a grade into the spreadsheet incorrectly.

WHAT THE CLASS IS ALL ABOUT: Engineering Physics is an advanced, calculus-based survey of physics course. We will cover a wide variety of topics in fairly rapid succession. You need to be prepared for the necessary caliber of effort. I don't expect you to know much about physics (though if you do it's a bonus). I *do* expect you to have a reasonable comprehension of math through first semester calculus. Very early in the first semester of this course you will be required to grapple with some fairly sophisticated mathematics. You will probably find your calculus textbook a useful reference.

If you pay attention during lecture, read the textbook, do the homework (on your own), work through the examples on the web, and put forth a reasonable amount of effort, I believe that you will find this course rewarding and not impossibly difficult.

A syllabus spells out the terms of a contract between us and so it is necessary to cast it in formal language. Don't let it worry you too much. I have generally had a lot of fun with my engineering physics classes. I like teaching a lot. I will do everything I can to make this course interesting. Don't be afraid of asking questions in class. My office door is generally open. If you are having a problem with this course (or with anything else for that matter) do not hesitate to come by. I hope that you all do well. Best of luck.

How to make an "A" in Engineering Physics (*a 12-step program*)

1. Read the textbook and notes *thoroughly* before coming to class.
2. Attend class.
3. Take notes in the margin of your downloaded notes during class
4. Review your notes and the text after class
5. Start on assigned problems immediately.
6. Work as many homework problems as you can – on your own.
7. If you are unable to make headway on a problem after 20 minutes, punt.
8. Make use of the instructor's office hours (or tutors for this class) for help with physics.
9. Begin studying for exams several days early.
10. Get on assignments in the online system asap. Don't wait until the last minute.
11. Take pride in you preparation for quizzes and exams.
12. Recognize that you are in the most difficult college course you are going to take and that you must rise to the challenge in order to succeed.