Physics 213 – Physics For Scientists & Engineers III Syllabus

1. **General Information**

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Textbook: "Physics" sixth edition by Serway and Jewett, Thomson,

Prerequisite: Algebra, trigonometry, calculus, Physics 211 and Physics 212

Evaluation:

Midterm 1	20%
Midterm 2	20%
Midterm 3	20%
Final	25%
Homework	15%
(Quiz	3~5%)
(Extra credit project	+5%)

Final Grades: $A \geq 87.5\%$, $B \geq 75\%$, $C \geq 60\%$, $D \geq 55\%$

(In case that the exams are <u>too easy</u> or <u>too difficult</u>, the above scale will be slightly changed to adjust the grade distribution.)

2. Specific Information

Assignments: Assignments are taken from the textbook. Please note following things: Work them out neatly. After finishing homework, staple your assignments and be sure to have your name and number (*see the fourth page*) written on it. Please show all work; an assignment that gives results only and does not show how they are obtained will receive no point. Collaboration among students is encouraged. However, copies are not allowed! **No late assignments will be accepted without a legitimate excuse.** Unless announced otherwise, assignments are due at the end of the class of the specified date. There are typically about ten problems per assignment.

♦ The whole HW problems for this semester are provided in another sheet in this syllabus.

For the precise format and how it will be graded, please see the fourth page of this syllabus.

Topics & Materials: Physics 213 covers fluid mechanics, thermal physics and optics.

Exams: There are 3 midterms and final for summer session.
   ♦ No make-up exams unless absence is legitimately excused.

Advice:
- Jokes sometimes make you relaxed. ☺ Enjoy learning!
- Feel free to ask me questions.
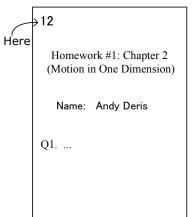- There is a recitation class, and I provide office hours. Try to communicate us.

Extra credit project

I will provide you an extra credit project when you did not get good scores on the exams although you made <u>a good effort</u> on this class. Namely, it is NOT just a back-up plan for a better grade. I will decide whether or not you deserve it, so I recommend you do the following things:

- Attend my class every time. (There will be an attendance sheet, so sign up when you come to the class. It will be more impressive if you sit down on front seats. However, it is not recommended that you be late to come to the class or leave earlier.)

- Try your best with homework and turn in every assignment. (Asking me questions on the subject and homework will impress me.)

How to format each assignment

- You will be provided an identification number for this class by the instructor. Please remember the number assigned and put it on the top and left of the first page shown below. (*If you forget to write the number, you may lose the whole score of the assignment or exam.*)

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Here

Homework #1: Chapter 2
(Motion in One Dimension)

Name: Andy Deris

Q1. ...

- For every question that you are supposed to do, you have to show your work at least as follows:

  1. Put the number of question or problem. (*Please order them.*)
  2. Write down the conditions and basic formulas.
  3. If you need to derive equations, indicate how you did.
  4. Write numbers in the equation that you plug in.
  5. Box the final result.

- The grader will subtract 2 points from 20 points for each problem on which you did not work. *(Writing only the answer will also give you minus 2 points.)*

- The grader or I will randomly choose a couple of problems to be checked in detail for each assignment. It will deserve 4 points for each problem, and will be graded as follows.

When the grader takes off points, s/he will use following notations to explain the reasons:

WC (Wrong Conditions): Using wrong initial or conceptual conditions or formulas to start with (- 1 point)

WP (Wrong Procedures): Skipping important steps, writing wrong derivations, etc. (- 2 points)

WA (Wrong Answer): Putting wrong values or units for the final result (- 1 point)

Other: It will be specified by the grader.

Remember that if you only write the final result and don't write any approach, it will be minus 4 points.

Please print everything neatly. Otherwise, the grader may give up grading your homework.

About Examinations

- For the format, the exam will be multiple choices and one problem to be solved with your complete work.

- The final exam will be a comprehensive test.

- The number of problems will be 9 ~ 10 for mid terms and 15 ~ 16 for the final.

- For the multiple-choice problems, only the answers are important (no partial credit).

- The last problem that you have to show your work will be graded with partial credits. This problem will be based on homework, lecture, and quizzes.

- If you presented excellent format skills, the logical or mathematical sense, intellectual and theoretical insight on the last problem, you will earn a bonus point besides partial credits.

- The bonus point will be determined by the following equation:

$$f(x) = a - \left(\frac{x}{b}\right)^c$$

where x is your raw score, a is the maximum bonus points, b is a converging constant, and c is index of convergence. For example, $a = 10$, $b = 68.13$, and $c = 6$.