PHY 2048 – Physics with Calculus I

General Information

Lecture Time: Monday 3:30PM – 5:10PM
Location: Green Library 100
Recitation Time: Wednesday 9:10AM – 10:50AM
Recitation Location: 10 sections, check your schedule for location
Instructor: Prof. Hebin Li (Office: CP222; Email: hebin.li@fiu.edu; Phone: 7-7641)
Office Hours: Monday & Wednesday 1 pm ~ 3 pm
Textbook: Ch.1~ 15 in "University Physics" 13th ed. by Young, Freedman and Ford
Course Website: http://faculty.fiu.edu/~hebli/fall2015
Prerequisite: MAC2311 or equivalent
HW Website: http://www.masteringphysics.com (Course ID: **PHY2048FALL2015**)

Overview

Physics with Calculus (PHY2048) serves as a calculus based introduction to physics. This is the first semester of a two-semester course. The topics in this semester include basic kinematics, Newton's Laws, conservation laws, momentum, gravitation, rotation of rigid bodies, periodic motion, and mechanical waves. It is assumed that you have some knowledge of introductory calculus and good working knowledge of algebra and trigonometry. The corresponding lab is PHY 2048L. Problem solving class PHZ 2102 is strongly recommended.

Course objectives

By the end of the semester, students will develop a working knowledge of the principles and concepts of university-level, calculus-based physics. Students will be able to construct complete and correct solutions to physics problems within the covered topics. Students will also learn critic thinking and problem solving skills for physics-related problems in general. Overall, students will develop a rigorous physics foundation for their careers in science and engineering.

Course schedule

A course schedule is attached to this syllabus. It shows the topics that will be covered in each lecture and corresponding reading assignment. **Please note that reading should be done prior to the lecture that covers the topic**. The professor reserves the right to change, add or omit any material in the course outline as is needed throughout the course. Any changes will be announced in class. Students are responsible for obtaining all information given in class, even if the student is absent.

Exams and Grading

There will be three exams including two midterms and a final exam. A midterm covers specific chapters noted in the course schedule. The final exam covers all topics in the semester. You might need a non-programmable scientific calculator (<$20) to use on exams and make sure

you know how to use it before exams. You may NOT use calculators on cell phone/iPad or other similar devices. Midterm exams will be held in class on **September 28 and November 2**. The final exam will be held in the final exam week. The specific time will be announced as the university final exams are scheduled. Please mark your calendar and plan accordingly. **Missing an exam will result in a zero score on that exam. No make-up exams will be given.**

The midterm exams will be reviewed and returned to you during the recitation following the exam. It is students' responsibility to attend the recitation and retrieve the exam. **Any questions regarding the grading have to be brought up to the professor within a week from when the exam is reviewed**. The scores will be official and cannot be modified after a week.

Student understanding of the course materials will be assessed using both homework and exams. Grad percentages will be based on the following breakdown.

Course requirement	Distribution of final grade	Date
Homework	20%	See HW assignments
Exam 1	25%	**Sept. 28 (in class)**
Exam 2	25%	**Nov. 2 (in class)**
Final exam (cumulative)	30%	**Dec. 7 (tentative, time TBA)**

A letter grade will be assigned only at the end of the semester. The following table shows how the letter grade will be assigned based on your total score.

Letter grade	**Range**	**Letter grade**	**Range**
A	90% –100%	C	70% – 72.9%
A-	86% – 89.9%	C-	66% – 69.9%
B+	83% – 85.9%	D+	63% – 65.9%
B	80% – 82.9%	D	60% – 62.9%
B-	76% – 79.9%	D-	56% – 59.9%
C+	73% – 75.9%	F	00 – 55.9%

Homework

Finishing homework on time is critical in this course. The homework will count for 20% of your final grade. More importantly, the homework is directly relevant to the exams. Doing well on homework is one of the most important preparations for you to do well on exams.

You will need access to Mastering Physics (www.masteringphysics.com) to turn in homework. It requires an access code that comes with new textbooks or can be purchased online if you have a used book. You must add this course with Course ID (**PHY2048FALL2015**) to have the full access to the homework assignments. There is a series of tutorial exercises in the first assignment with which you should practice to get familiar with the system.

There are some rules in Mastering Physics.

1. When sign up the account, please use your **official name** as it appears on your Panthersoft account. Please make sure to use **the correct Panther ID** in your account. Any accounts that do not match the official record on Panthersoft **will be removed** in the second week.
2. Each student should **only sign up one account, duplicated accounts will receive no credits on all accounts**.
3. No credit for late submission.
4. The number of attempts per question is limited to 6.
5. For a multiple-choice or true/false question, the credit is deducted for each incorrect answer by 100% / (# 0f answer options – 1).
6. You are encouraged to use hints. No penalty for using a hint, no bonus credit for not opening a hint.

There will be 10-20 homework problems for each chapter. Most problems will be taken from the textbook but will have different numbers to plug in for each student. The homework assignments and due dates will be posted on the course website, Mastering Physics, and will be announced in class. The assignments are due at 11:59pm on due date. **No late submission is accepted.**

Academic Integrity Statement

The academic integrity of the classes offered by any universities solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy and rules, please refer to the FIU Student Code of Conduct (http://regulations.fiu.edu/regulation=FIU-2501).

Disability Notice

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.