50:750:203- General Physics I

Instructor	J. J. Naddeo	E-mail	jnaddeo@gmail.com
Phone	856-225-6294	Office Hours	After class.
Office	BSB 417	Final Exam	July 21st, 10:50 a.m. – 1:30 p.m.

Class meeting time: M,T,W,TH, 10:50 a.m.-1:30 p.m.

Location: BSB 132

Description:

This course is the first part of the General Physics tandem, which are algebra-based physics courses taught mostly to Biology and Pre-Health majors. While there are no prerequisites for the course, you will be expected to **use** algebra, geometry, and trigonometry in this course in order to solve problems. We will cover Chapters 1-11 and 16-17 in Volume I of the text. See the end of this document for an outline. As always, this is subject to minor modification.

This class is coded as "hybrid" which means that you are expected to watch video lectures and do the required reading _**before**_ you come to class. Class time will predominantly be spent on problem-solving, demonstrations, group work, and other activities. If you are not prepared for class, it will show.

Text: "Physics," Cutnell & Johnson – 7th Edition. Volume 1. You can also use Edition 8, 9, or 10.. Since I will provide the text of the problems for you, you can really buy any "College Physics" or algebra-based text for the course. I also like Serway and Vuille, among others. Just be aware that you will need to pay more attention to synchronizing the reading and notes if you pick a "non-official" text.

Details:

1) Office hours are just a formality – I will try to help you any time I can. Call or come by.
2) _**There are no make-up exams**_. If you miss an exam, you must provide a written medical excuse or the equivalent. If the excuse is accepted, you receive the average of the other three exams that you will have completed. If you miss the final exam, you will need a medical excuse _**and**_ must contact the instructor within 48 hours of the final to discuss your options (not taking the final exam is not an option). There is an "information sheet" with each exam with all the necessary formulas, so there is little or no need to memorize formulas.

3) Homework will be assigned for each chapter, but not collected and graded. You are strongly advised to finish the problems, as the exams will be based on the homework.
4) Each online chapter quiz will be made available midnight before the lecture for the chapter is given. The quiz is only allowed to be taken once and a time limit of 60 minutes from the time the quiz is opened will be enforced. The due date will usually be 6:00 pm the day after the lecture for the quiz (unless otherwise specified on the sakai class schedule). **Please note that the lowest two quiz grades will be dropped and any errors found on the quiz if emailed with a screenshot and short description will result in extra credit of 5 points on the quiz.**

Grading:

Sakai Quizzes – 20% of grade (drop lowest two)
2 Hourly Examinations – each 20% of grade. Tentative Dates – (7/7, 7/14)
1 **Cumulative** Final – 30% of grade. Date – 7/21
Class Participation – 10% - determined from watching the lectures and utilizing "Resources" on Sakai. Willingness to perform group work and problem solving in-class.

Your grade will be computed on the basis of a Gaussian distribution in which the average is a C+.

"A" – 1.15 standard deviations (STD) above the average.
"B+" – 0.68 STD above the average.
"B" – 0.34 STD above the average.
"C+" - average

"C" – 0.68 STD below the average.
"D" – 1.15 STD below the average.
"F"- anything less than 1.15 STD below the average.

Resources:

1) Sakai: sakai.rutgers.edu

Specific Student Learning Outcomes (SLOs) Objectives for General

Physics I are:

1. Understand the problem-solving process and develop critical thinking skills.
2. Model and solve a variety of problems using trigonometry, algebra, and geometry.
3. Understand laws of motion and causes.
4. Understand the concepts of work and energy and apply them to solve problems.
5. Understand momentum and it's role in collisions.
6. Understand rotational motion and it's relationship to translational motion. Correctly define mechanical equilibrium.
7. Understand fluids and their properties.
8. Gain an introduction to waves and their properties.

Instructor's Statement:

Do not engage in any form of academic dishonesty in my class. If you do not know what academic dishonesty is, please consult this statement.

I will report any violations of this policy to the campus Judicial Officer.

Please note that distributing class materials or posting them elsewhere will be considered a violation of the integrity policy cited above. This is because you will be making me a party to copyright and academic honesty violations. I have used copyrighted material for lectures such as images and flash animations. I either have permission to use them in class or I claim fair use. I do not have permission to distribute these materials on the web and neither do you. In additions, the recorded lectures are the property of Rutgers. So, any re-posting of materials will be considered a serious breach of the integrity policy and I will fail you for the course.

It is necessary to explain all steps that you take on exams – make an effort to *clearly* show your work. Answers without justification will not be accepted! You may be asked to explain your reasoning

Do not bring cellphones to class or disrupt class in any way. If you do so, you will be asked to leave and will not be welcome back for the rest of the class period. The use of computers will be at my discretion – in general they will not be necessary/welcome.

Attendance is strongly suggested at all class meetings in accordance with the policies and guidelines set forth in the student manual. Your class participation grade obviously is very strongly dependent on your attendance.

Class Outline General Physics I (Problems given from 7th Ed.)

6/27- Chapter 1 - Introduction, Review of Math, Coordinate systems, etc.

HW: 2,3,4,7,8,10,11,14,16,18,21,24,29,30,33,36,43,45,46, 64-69

6/28- Chapter 2 – Kinematics

HW: 2,4,8,10,14,17,22,23,26, 28,34,38,40,44,49,58,59,61

6/29 - Chapter 3 - Kinematics in 2D

HW: 3,6,10,14,15,18,24,30,32,40,48,50,53,75,79

6/30 - Chapter 4 – Newton's Laws of Motion

7/5 - Continue Chapter 4, Start Chapter 5

HW: 6,10,14,15,22,30,32,36,40,42,50,52 58,63,66,72,74,114,115,118

7/6   - Finish Chapter 5 - Uniform Circular Motion

HW: 3,6,10,12,15,18,22,28,33,38,40

7/7- **- Exam I,** Chapter 6- Work and Energy

HW: 1,8,14,17,19,28,31,32,34,36,38, 46,48,56,58,66

7/11- Chapter 7 – Impulse and Momentum

HW: 3,10,13,16,19,27,29, 34,44

7/12- Chapter 8 – Rotational Kinematics, begin Chapter 9 – Rotational Motion

HW: 4,8,10,16,21,28,32,38,42,46,50

7/13 – Continue Chapter 9 – Rotational Motion

HW: 4,7,9,12,15,16,20,23,30,31,33,36,41,44,46,51,54,57,58

7/14 **- Exam II,** Chapter 10 – Simple Harmonic Motion and Elasticity

HW: 7,10,18,26,32,42,48,52,56

7/18 - Chapter 11 – Fluids

HW: 7,9,15,17,23,27,35,37, 39,42,44,52,54,59,62,70,72,76

7/19 - Chapter 16 – Waves and Sound

HW: 8,10,16,24,26,36,38,42,50,54,62,65,72,75

7-20 -, Chapter 17 – Superposition and Interference

HW: 3,7,12,14,16,19

7/21 **-Cumulative Final Exam**