General Physics I
PHS 201-G
Fall 2007

Instructor: Dr. Nate Magee
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Office hours: in SC-P304: 1 hour prior to lecture, M/W 4-5 pm and by appointment
Required Text: Fundamentals of Physics: *Halliday, Resnick, and Walker**7th ed. (Vol. 1 pkg)***
Course web site: www.tcnj.edu/~magee

Meeting Time/Space:	Mon/Wed Lectures:	SC P 317	(5:00-6:20 pm)
	Mon/Wed Labs	SC P 312	(6:30-8:20 pm)

Course description: General Physics I is an introduction to the part of physics known as mechanics. Topics include measurement, vectors, one-, and two-dimensional kinematics, Newton's Laws, equilibrium, work and energy, momentum, conservation laws, friction, torque and rotational equilibrium. Successful course completion will allow the student to understand and analyze such common physics applications as falling objects, weight-lifting machines, ballistics trajectories, braking and skidding, hoists, skiing, roller coasters and pole-vaulting, and will provide a sound basis of general mechanics knowledge for life-long use.

Emphasis in the course will be in applying the knowledge and formulas to real-world situations. In addition, many of the concepts, problem solving skills and modeling techniques we will learn are useful for everyday activities and situations. The detailed topics covered in the course are presented in the text in Chapters 1 – 10. We will work through most of the material in each chapter in one week, spending a little extra time on important or difficult topics.

Course objectives: The objective of this course is to develop important analytical skills and to provide a strong foundation for further technical study. Mastery of the materials and skills that will be taught in this course will be fundamental to success in any engineering or technical discipline.

TOPICS

1. Measurements, scales, and units ..... Chapter 1
2. Linear Kinematics ..... Chapter 2
3. Vectors and 2-D kinematics ..... Chapter 3-4
4. Dynamics: Newton's laws ..... Chapter 5-6
5. Work and Energy ..... Chapter 7-8
6. Linear Momentum ..... Chapter 9
7. Rotational Motion ..... Chapter 10-11

COURSE STRUCTURE

Assignments: Reading and Problem Sets
Reading will be assigned to be completed prior to each class. Comprehension of this reading will be necessary to actively participate in class. Problem sets will be assigned bi-weekly and will consist of questions and problems drawn from the text as well as other sources. Problem sets are generally due two weeks after they are issued. They will be graded and contribute significantly to your grade. They are not optional. We will reserve some time during class to work on problem-solving, but much of the work will need to be completed outside of class. The problem sets are an essential to your learning and should be done carefully. Late submissions will not be accepted without prior approval.

Exams: 3 tests and 1 comprehensive final exam
Three tests will be spaced evening during the semester. The final exam will be comprehensive.

Labs:
A tentative calendar for our course will be available on the course web site. These labs will require teamwork, hands-on problem solving, and writing, and will be an important part of your course grade.

Classroom lectures and discussions:
The classroom time will be devoted to lectures, discussions, and problem solving which follow text material. Please do not hesitate to ask questions during class. Your active participation in the classroom is important for developing a positive learning experience for all students in the course.

Grading:
Grades will not be curved. Percentage grades will be converted directly to letter grades.

Weighting:

30% tests
25% final exam
15% problem sets
25% laboratory grade
5% classroom participation

Attendance:
Course attendance will be monitored closely and contribute to your participation grade. Please talk to me personally if expect to miss an upcoming class.

Cancellation/School Closings:
If class should be canceled for any reason, any scheduled exams or due problem sets will be transferred to the first day we return to class.