

Physics 170A
Principles with Applications
Department of Natural Sciences
American Jewish University
Fall 2008

Logistics	Lecture Room: 232-233 Meeting Time: TW and 1:00-2:30 am Lab Meeting: 2:45-4:00 pm W
Instructor	Prof. Armen Kocharian Email: armen.kocharian@calstatela.edu
Prerequisites	High School Physics or equivalent.
Textbook	Theory: James S. Walker, Physics, Third Edition, 2006, PRENTICE HALL Problems: Douglas C. Giancoli, Physics;, Real Time Physics Active Learning Lab <i>Module 1</i> Mechanics: D. Sokoloff et al, Fifth Edition, 2000, PRENTICE HALL Complementary Labs: Barney L. Bales, Manual for General Physics I Laboratory (2002) Northridge, CSUN.
Objectives	The course has the general aim: to gain an understanding and appreciation of the fundamental laws of motions and gravitation. At the end of the course, the successful students will be able to recognize and appreciate many of the wonders nature has in store. In addition, students will develop and improve upon their problem-solving skills and learn to apply them to other areas of their college education.
Topics	Kinematics, dynamics, statistics of particles and rigid bodies, harmonic vibrations, and fluid mechanics.
Requirement	This course is a first half of the general physics 100 series. It fulfills the requirement of General Education in natural sciences by covering mechanics, heat and sound. The final letter grade, including plus/minus sign, for this course is determined by the counting the scores from quizzes, one or two in-class tests and the final exam. There will be 9-10 quizzes given over the semester, which will generally be about 10 minutes long held at the end or beginning of the class and closed notes. The best way to prepare for a quiz is to take a practice quiz at home timing your effort. Each quiz will cover conceptual problems and the material through the previous lectures, homework assignment and the solved examples in the textbook. Only the 8-9 highest score will be considered. The final will not be non cumulative. There will be weekly homework assignments at the beginning of the week the material is covered. Updated assigned problems must be done by the date indicated and the students can check their solution against the posted solutions on a web. The assigned problems are by no means the only ones the students should attempt and know how to solve. Students are also encouraged to work in groups in attempting these problems. The attendance in class is strongly recommended and counted.

Lab work Real Time Physics Laboratory is mandatory to the extent that the points will be given for every lab session work you have completed. No make up labs. Missing more than 3 laboratories will result in the final course grade no higher than D.

Attendance Participation in class is the component of your grade based upon: answering and asking questions in lecture, active participation in lab discussions with your peers, regular punctual attendance in class. Lecture attendance is not mandatory, however, missing class or laboratory will quite likely affect your grade. Under no circumstances is there to be a food or drink in either the lecture hall or laboratory. Don't forget to set off your cell phone before entering the class.

Tentative Course Calendar

<u>Class Date</u>	<u>Sections</u>	<u>Assignment</u>	<u>Quiz?</u>
September 2	Introduction		
September 3	Chapter 1.1-1.4.	Homework 1	yes
September 9	Chapter 1.5-1.7.		
September 10	Chapter 2.1-2.4.	Homework 2	
September 16	Chapter 2.5-2.7.	Exercises # 2.41, 2.44	
September 17	Lab 1.	Uncertainties in Measurements	
September 23	Chapter 3.1-3.3.	Homework 3	yes
September 24	No classes	Rosh Hashana	
Sept. 30 – Oct. 1	No classes	Rosh Hashana	
October 7	Lab 2.	Measurement of Length	
October 8	Chapter 3.4-3.5.	Exercises # 3.21, 3.29	
October 14 – 15	Sukkot	No classes	
October 21 – 22	Shemini Atzeret	No classes	
October 28	No classes	Yom Kippur	
October 21	Chapter 4.1-4.3.	Homework 4	yes
October 22	No classes	Shemini Azeret	
October 28	Lab 3.	Free Fall	
October 29	Chapter 4.4-4.5.		
November 4	Chapter 5.1-5.4.	Homework 5	yes
November 5	Chapter 5.5-5.7.		
November 13	Chapter 6.1-6.3	Homework 6	yes
November 11	Lab 4.	Vector Addition of Forces	
November 12	Chapter 6.3-6.5.		
November 18	Review	Chapters 1-6 inclusive	yes
November 19	Midterm Exam		
November 25	Chapter 7.1-7.2.	Homework 7	
November 26	Lab 6.	Inclined Plane with Friction	
December 2	Chapter 7.3-7.4.		
December 3	Chapters 8.1-8.3.	Homework 8	yes

