GENERAL PHYSICS I        PHYS122-01 Fall 2013

Instructor: Prof. Martin Nikolo, Ph.D., Office in MD 2061. Email: nikolom@slu.edu Office Hours: MWF 3:00-3:30 pm.


Your grade is based on 3 tests, final exam, the laboratory, and any homeworks/quizzes, if given. Test questions come from the Test Questions book. Make sure you have the current edition. I reserve the right to add other questions from other sources (something I have not done often in the past).

It is your task to read the textbook chapters on your own and solve all the questions in the respective chapters of the test book, ahead of each test. You will need to get into the habit of solving questions every day if you want to keep up.

You can email me what questions you have problems with ahead of each class and I will solve some of them during the class if time allows. You need to bring at least the Test Questions book to class for I refer to it frequently and may read them quickly. Don’t bring the old ones for the questions are different.

It is possible I pick one question from the Test Questions book (or other source) and give it to you as a quiz question occasionally, depending the availability of a grader. Only a written letter by your doctor is an acceptable excuse if you are not in class on that day. I will determine the weight of quizzes/homeworks later but it will not be greater than one test score (assuming homeworks or quizzes are given).

Grading:
Tests add to 300 points. Final is 150 points. Lab is 100 points. I add any homeworks or quizzes, if given. Final is comprehensive. No scores can be dropped. All your work counts.

A grading scale is as follows:
89 out of 100      A
85-88              A-
80-84              B+
73-79              B
68-72              B-
62-67              C+
55-61              C
48-54              C-
35-47              D
<35               F

No exceptions. Everybody is close to the next better grade. Please, do not burden me with those requests.
Course Contents

Module 1: Chapters 1, 2, and 3
Time to cover Chapter 1, 2 and 3: 11 50-minute lectures

Motion 1
  1.1 Physics and Measurement
  1.2 Speed, Vectors, and Velocity
  1.3 Acceleration
  1.4 Projectile Motion

Forces and Newton’s Laws 2
  2.1 Newton’s First Law
  2.2 Newton’s Second Law
  2.3 Newton’s Third Law
  2.4 Friction and Air Drag
  2.5 Centripetal Force

Gravity 3
  3.1 Gravitational Force
  3.2 Laws of Planetary Motion
  3.3 Ocean Tides

Test 1.

Module 2: Chapters 4, 5, 6 and 7
Time to cover Chapter 4, 5, 6, and 7: 11 50-minute lectures

Energy 4
  4.1 Work, Energy, and Power
  4.2 Energy Transformations

Momentum 5
  5.1 Momentum and Impulse
  5.2 Conservation of Momentum and Collisions

Rotational Motion 6
  6.1 Describing Rotation
  6.2 Torque
  6.3 Angular momentum

Structure of Matter and Solids 7
  7.1 Atomic Model
  7.2 States of Matter – Solids, Liquids and Gases
  7.3 Solids
7.4 Elasticity and Stress

Test 2.

Module 3: Chapters 8, and 9
Time to cover Chapter 8, and 9: 10 50-minute lectures

Fluids 8
  8.1 Pressure in Liquids and Pascal’s Principle
  8.2 Pressure at Different Depths
  8.3 Archimedes’ Principle and Flotation
  8.4 Earth’s Atmosphere
  8.5 Ideal Gas and its Properties
  8.6 Fluids in motion

Heat and Change of State 9
  9.1 Heat, Specific Heat, and Thermal Expansion
  9.2 Heat Transfer
  9.3 Change of Phase
  9.4 Thermodynamics