Syllabus for
PHY 101—General Physics I Lecture
3 Credit Hours
Fall 2003

I. COURSE DESCRIPTION

An introduction to the laws and principles of physics including mechanics, heat, and sound. (Primarily for liberal arts and biological science students. Not applicable to a physics major or minor.)
Prerequisite: MAT 113 or instructor's approval.
Corequisite: PHY 101 Lab.

II. COURSE GOALS

The purpose of this course is to provide a thorough understanding of the principles of mechanics, sound, and heat and to enable students to apply the concepts in other disciplines.

III. COURSE OBJECTIVES

A. As a result of completing this course successfully the student will be able to do the following:
   1. state or explain technical terms and names of significant individuals in physics
      a. define or identify a given term or name, and
      b. match a given statement with the appropriate term or name.

   2. discuss basic concept of classical physics (such as vectors, harmonic motion) and to select from several choices the proper description of a given concept.

   3. explain the basic laws of classical physics (such as Newton's Laws of Motion, Law of Universal Gravitation, Archimedes' Principle, Laws of Thermodynamics, etc.)
      a. describe a given physical law
      b. write the mathematical formulation of a given law, and
      c. identify a particular law when expressed by a given mathematical formula.

   4. apply the terms, concepts and basic laws of classical physics in solving typical problems.

   5. approach the learning of a subject in a consistent and disciplined manner
      a. attend class sessions regularly and punctually,
      b. turn in homework assignments regularly and on time, and
      c. participate in group activities and class discussions.

B. Objectives for students in Teacher Preparation Programs

These course goals for the Teacher Preparation Program meet the competency-based requirements established by the Oklahoma Commission on Teacher Preparation. This course meets the following competencies: Subject Competencies (SC) 7.c.2. and 7.c.3.

This course is designed to help the student meet subject competencies numbers 7.c.2. and 7.c.3.

SC.7.c.2.: is able to teach with broad understanding of all content areas and understands the eraction between the sciences and process skills as it applies to Physical Science Content: motion and force.

SC.3.c.3.: is able to teach with broad understanding of all content areas and understands the interaction between the sciences and process skills as it applies to Physical Science Content: transfer of energy.

II. TEXTBOOKS

A. Required Textbook.
Giambattista, A., B.M. Richardson & R.C. Richardson, College Physics, McGraw-Hill, New York, 2004.

B. Recommended Book
Giambattista, A., B.M. Richardson & R.C. Richardson, College Physics Student Solution Manual, McGraw-Hill, New York, 2004.

C. Other Required Material
Scientific Calculator
Flash cards

V. POLICIES AND PROCEDURES

A. University Policies and Procedures
1. Attendance at each class or laboratory is mandatory at Oral Roberts University.
2. Double cuts will be assessed for absences immediately preceding or following holidays.
3. Excessive absences can reduce a student's grade or deny credit for the course.
4. Students taking a late exam because of an unauthorized absence will be charged at late exam fee.
5. Students and faculty at Oral Roberts University adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software.
6. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.

B. Course Policies and Procedures
1. Evaluation Procedures
The final grade is a composite result of performance in exams, quizzes, and homework problems. The final exam constitutes approximately 25% of the final average. Approximately 60% of the final grade is based on four hour exams, and 15% for homework problems, quizzes, and pre-lecture notes. The grading scale is as follows:

90 - 100	A	Excellent
80 - 89	B	Above Average
70 - 79	C	Average
60 - 69	D	Below Average
Less than 60	F	Fail

The final grade will be reduced by 1 point for every absence beyond 3.

Late exams are given only in extremely unavoidable situations; the exam grade may be reduced by up to 20%.

2. Other Polices and Procedures

a. Homework Problems

Solutions for assigned problems from sections covered in class are due in the next class. Problems solving is much more than merely substituting numbers for the symbols in a formula or fitting together the pieces of a jigsaw puzzle. Merely thumbing through the book until the student finds a formula that seems to fit or a worked-out example that resembles the problem is a waste of time and effort. Students should study before you tackling the problems. Problems enable students to find out whether or not they understand the assigned material. This is a good indicator of one's motivation, initiative, and reliability.

b. Tardiness

Students are expected to be in class on time. Those who would be late by more than 15 minutes should not enter the class unless the instructor was informed of the possible tardiness in advance.

VI. COURSE CALENDAR

Date	Topic	Lecture	Homework
8/15	Introduction		
8/18-22	Chapter 1 Introduction to Physics	1.1 - 1.9	Will be assigned in class
8/25-29	Chapter 2 Forces	2.1 - 2.7	
9/1-5	Chapter 3 Motion Along a Line **Exam 1, Ch 1, 2, 3_** (No class 9/1 Labor Day)	3.1 - 3.7	
9/8-12	Chapter 4 Motion in Two Dimensions	4.1 - 4.7	
9/15-19	Chapter 5 Circular Motion	5.1 - 5.6	
9/22-26	Chapter 6 Energy and Power **Exam 2, Ch 4, 5, 6**	6.1 - 6.8	
9/29-10/3	Chapter 7 Linear Momentum	7.1 - 7.8	
10/6-10	Chapter 8 Torques and Angular Momentum	8.1 - 8.8	
	10/13 - 10/17 Fall Break		
10/20-24	Chapter 9 Fluids **Exam 3 Chapters 7 - 9**	9.1 - 9.11	
10/27-31	Chapter 10	10.1 -10.10	

	Elasticity and Oscillations	
11/3-7	Chapter 11 Waves	11.1 - 11.10
11/10-14	Chapter 12 Sound	12.1 - 12.8
	Exam 4 Chapters 10 - 12	
11/17-21	Chapter 13 Temperature and the Ideal Gas	13.1 – 13.8
11/24	Review	
	11/26 – 28 - THANKSGIVING BREAK	
12/1-5	Chapter 14 Heat	14.1 - 14.8

12/8-12 - Final Examination - Chapters 1-14

VII. ASSESSMENT SUMMARY

Dr. C. Thomas Luiskutty
Name of Instructor

PHY 101
Course No.

General Physics I Lecture
Title of Course

Engineering and Physics
Name of Department

MISSION

The lifestyle at ORU is rooted in the word "Wholeness." ORU seeks to educate the whole person, with balanced emphasis placed on the development of mind, spirit, and body.

GENERAL OUTCOMES

1. Spiritual Development
2. Physical Development
3. Communication
4. Analysis
5. Problem Solving
6. Valuing in Decision-making
7. Social Interaction
8. Global Perspectives
9. Effective Citizenship
10. Aesthetic Responsiveness

MAJOR OUTCOMES

Analysis/Problem Solving:
Has the ability to analyze, design, and obtain effective solutions to real world engineering and physics problems.

Communication/Team Work:
Demonstrates ability to work on teams and communicate effectively in written and oral forms.

Fundamental Knowledge Base:
Possesses fundamental knowledge of principles of engineering, physical sciences, and mathematics.

Christian Stewardship and Ethics:
Ethically applies engineering technology to the solution of human problems using Christian principles.

COURSE GOALS

Apply the knowledge in analyzing and solving problems.

Be able to communicate ideas by asking relevant questions and answering questions as well as writing pre-lecture notes and journals.

Comprehension of basic ideas in mechanics, heat, and wave motion.

Be scientifically literate to make decisions concerning environment and other global problems.

ASSESSMENT OF COURSE GOAL

STIMULI:

Examinations
Class/Group discussions
Homework

CRITERIA:

Works out problems in a systematic way

Performs well in exams

Participates in class/group discussions

Prepares for class by writing pre-lecture notes.