



Lincoln University

Course Title:	Physical Science	Instructor:	Prof. Serge Ruiz
Course No:	SCI 10	Phone:	949-232-3323
Units:	3 units (= 45 lecture hours)	E-mail:	sruiz@lincolnuca.edu
Class Hours:	Tuesdays, 9:00 am -11:45 am	Office Hours:	After class or on request
Semester:	Fall 2013	Office Number:	Room 407

REQUIRED MATERIALS

Textbook: *College Physics* by Frederick J. Bueche, Ph.D., and Eugene Hecht, Ph.D., Schaum's Outline Series – Mc Graw-Hill, 11th Edition (2011) – ISBN-10: 0071754873, ISBN-13: 973-0071754873

Required Tools: Microsoft Excel Spreadsheets; Scientific Calculator

COURSE DESCRIPTION

The study of matter and energy; principles and practical applications in physics, chemistry, mechanics, heat, sound, electricity, electronics, geosciences and astronomy. This course introduces the basic Concepts, Principles, Laws, and Formula of fundamental Physics. It covers various topics such as Mechanics, Electricity and Magnetism, Heat, Sound, Light, Atomic Structure, etc. Experiments and applications related to fundamental Physics, and additionally, as mathematical tools, basics Functions such as Sin, Cos, Tan, Log and Exp are also introduced.

LEARNING OBJECTIVES

Upon satisfactory completion of this course, the students will be able to

- understand simple physical phenomena around us
- understand the basic Concepts, Principles, and Laws of Physics related to the topics introduced in class
- learn basic Mathematical Function used in Physics; perform simple calculations using basic Formula in fundamental Physics
- understand simple experiments performed in Fundamental Physics
- understand simple applications based on Concepts, Principles, and Laws of fundamental Physics related to topics such as Motions, Solids, Fluids, Gases, Electricity and Magnetism, Heat, Sound, Light, Atomic Structure, ...

INSTRUCTIONAL METHODS

Lecture method is used in combination with the practical use of a Excel. The emphasis will be on learning by doing. Every student must participate in an intensive classroom activity. Reading, writing, and problem solving assignments will be made throughout the course.

OTHER REQUIREMENTS

All students are required to attend the class. Continuous assessment is emphasized. Written or oral quizzes will be given every week. Students must complete all assignments and take all quizzes, mid-term exam and final exam ON THE DATES DUE. Talking in class, using cell phones, coming late, leaving the room at times other than at break time is not allowed. Plagiarism/cheating will result in the grade F and a report to the administration.

ASSIGNMENTS & QUIZZES

Most assignments will be from the textbook. Each assignment is due at the beginning of the following class. You can return your assignments electronically if you desire. Quizzes will take place at the beginning of the course, after collecting assignments and answering questions. Quizzes are designed to last 20 minutes and are based on the material in the assignment.

TESTING

Classroom activities	every week	10%
Quizzes	as scheduled	10%
Assignments	every week	10%
Mid-term exam	as scheduled	30%
Final exam	as scheduled	40%

There will be no make-up for a missed quiz or participation in a classroom activity. No make-up exams will be given unless you have the instructor's prior approval obtained in person before the exam date, with the exception of an extreme emergency. Late assignments will get no credit or reduced credit. ***Students will not be allowed to use computers or cellular phones during tests.***

GRADING

Grades will be determined according to the following percentages awarded for completed work:

100-93	92-90	89-87	86-83	82-80	79-77	76-73	72-70	69-67	66-60	59-0
A	A-	B+	B	B-	C+	C	C-	D+	D	F

OTHER COMMENTS

- If you miss a class, you are responsible for getting notes/slide printouts on the material covered from a classmate or the instructor.
- To avoid distracting noise in class, cellular phones must be turned off or the ringing mode silenced.
- Questions and comments during the class are welcome. Do not hesitate to ask questions – do not leave anything unclear for you.

FALL 2013 SCHEDULE OF TOPICS

Please read every chapter of the textbook before you come to class

Session	Date	Topics	Chapters
1	08/27	Mathematical Review; Kinematics	Appendices; 1 to 3
2	09/03	Forces and Energy	4 to 7
3	09/10	Dynamics	8 to 12
4	09/17	Fluid Mechanic; Theory of Flight	13 and 14, extra
5	09/24	Gases	15 to 18
6	10/01	Thermodynamics; Waves	19 to 23
7	10/08	Midterm Exam	1 to 23
8	10/15	Electricity	24 to 29
9	10/22	Magnetism	30 to 32
10	10/29	Electrical circuits	33 to 35
11	11/05	Optics	36 to 40
12	11/12	Relativity and Quantum Mechanics	41 to 43
13	11/19	Nuclear Physics	44 to 46
	11/26	FALL RECESS	
14	12/03	Review	24 to 46
15	12/10	Final	24 to 46

MODIFICATION OF THE SYLLABUS

This syllabus was updated on July 23, 2013. The instructor reserves the right to modify this syllabus at any time during the semester. An announcement of any changes will be made in the classroom.