

## Physics 1401 – College Physics I Course Syllabus

### **Contact Information**

Kevin Smith, Ph. D.

Phone: 432-335-6315

Email: [ksmith@odessa.edu](mailto:ksmith@odessa.edu)

### **Course Information**

Department: Physical Sciences

Start Date: 01/18/2011

End Date: 05/13/2011

Modality: Face-to-Face

Credits: 3 hour

Course: Physics 1401-624

Lecture/ Lab: TTH 6:00 – 8:50 PM

### **Required Reading/Material**

College Physics (8<sup>th</sup> ed.) Serway /Vuille

### **Course Prerequisites**

MATH 1314 (College Algebra) & MATH 1316 (Plane Trigonometry), or concurrent enrollment in MATH 2412 (Pre-Calculus), or by consent of instructor

### **Course Description**

This course is a study of classical mechanics, molecular physics, and heat with applications. This course is recommended for students of medicine, dentistry, veterinary medicine, optometry, biology, and architecture. The student will be involved in reading information or problems and using critical-thinking skills and mathematics to organize the information or to arrive at an answer; also requires student writing skills in order to communicate the information acquired in a written format. (SCANS 1, 3, 6, 9)

### **Course Objectives & Student Learning Outcomes**

The objective of the study of a natural sciences component of a core curriculum is to enable students to understand, construct, and evaluate relationships in the natural sciences, and to enable the student to understand the bases for building and testing theories.

General outcomes and objectives for this course include:

1. To understand and apply methods and appropriate technology to the study of natural sciences.
2. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
3. To identify and recognize the differences among competing scientific theories.
4. To demonstrate knowledge of the major issues and problems facing modern science, including issues related to ethics, values, and public policies.
5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Specific outcomes and objectives for this course include:

1. To obtain the intellectual ability to translate, interpret, and extrapolate the most important scientific models and laws governing the motion of objects, the physics of energy, momentum, and collisions, and the physics of thermodynamics.

2. To further develop critical thinking and problem solving skills in the area of physics and the natural science.

Laboratory learning outcomes and objectives include:

1. To complete the introductory physics learning experience through quantitative laboratory experimentation, with focus on the specific learning objective concepts within the course.
2. To continue to learn and practice sound scientific methods as evidenced by satisfactory assessments of laboratory notebook record keeping, laboratory reports and assignments, and required laboratory procedures.

### **Course Attendance**

Course attendance is the responsibility of the student. Excessive absences will not result in a student being dropped from a course. Attendance will be taken in class.

### **Academic Honesty**

Odessa College expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the code of Student Conduct found in the student handbook. Cheating will not be tolerated in any form.

### **Students with Disabilities**

Odessa College complies with Section 504 of the Vocational Rehabilitation act of 1973 and the ADA of 1990. Students with special needs or issues pertaining to access and participation in this class must contact me immediately. Further, you may call the Office of Disability services at 432.335.6861 to request assistance and accommodations.

### **Late Work Policy**

Laboratories are to be turned in at the end of the lab period.

### **Course Evaluation**

Course grades are based on the labs and exam grades. The percent breakdown is :

40%	Labs
60%	Exams

It is important to understand that physics is fundamentally a laboratory-based science. I do reserve the right to rescale grades as I see fit at any time during the semester. Final grades will be assigned as follows:

A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	00 – 59

### **Cell Phone Use**

Cell phones, while an important communication tool in modern society, are a severe interruption to classroom instruction. Thus, cell phones are, as a rule, strictly prohibited from being seen or heard. If you must have a cell phone available to you in case of an emergency, your phone must be put up on your person (not in a desk, but in your pocket or on a belt) and set on vibrate or silent. You may at any time excuse yourself from the classroom to attend to your personal business. There will be no cell phone use allowed in class. Strictly, no texting or internet surfing. During exams, in order to maintain integrity of the testing environment, all cell phones will be required to be off.

**Video /Audio Recording**

Video /audio recording of lectures or class activities is strictly prohibited unless special accommodations are warranted for students with disabilities. Violation of this policy will result in the student being removed from the class and receiving a grade of F.

**Course Outline**

<b>Week</b>	<b>Dates</b>	<b>Topics</b>	<b>Chapters</b>	<b>Labs</b>
1		Introduction & Mathematics	Ch 1, 3.1-3.2	X
2				X
3		Linear Motion, Momentum, & Energy	Ch 2, 3.3-3.5, 4, 5, 6	1
4				2
5				3
6				Exam 1
7		Rotational Motion, Oscillatory Motion	Ch 7, 8, 13, 14	4
8				5
9				6
10				7
11				Exam 2
12		Fluid Mechanics & Thermodynamics	Ch 9, 10 11, 12	
13				8
14				X
15				Exam 3
16		Final Exams		X