PHYS 1410
COLLEGE PHYSICS 1
Spring 2012

Lecture 12:00pm-12:50pm MWF LSC 168
24774 LAB A 3:00pm-5:40pm Mondays LSC 112
24775 LAB B 3:00pm-5:40pm Wednesdays LSC 112
http://faculty.uca.edu/~saustin/1410/1410_sp12.html

Instructor

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Office hours: MWF 11am-12pm, MWF 1pm-2pm

Course Description

For biology, health science, pre-medical, pre-dental, and other students needing a basic introduction to physics. Forms a two-semester sequence with College Physics 2. Introduces the student to mechanics (kinematics, force, work, energy, momentum, rotational motion, elasticity, fluids), heat, and thermodynamics. Lecture and laboratory. Prerequisite: High school trigonometry and grade of C or better in MATH 1390 or equivalent.

Goals/Objectives

The purpose of this course is to provide an overview and in-depth understanding of the physics of Newtonian mechanics. Additionally, you will be expected to exercise and improve your critical thinking and problem solving skills by participating in discussions, demonstrations, and laboratory activities.

Course Format

Required Equipment

- Text book: WileyPlus (Cutnell & Johnson, "Physics" 8th Edition)
- Calculator

WileyPlus Assignments

Multiple WileyPlus assignments will be due each week.

Classroom Activities

Lecture time will be spent primarily on short lectures and example problem solving.

Laboratory

Lab work will be done during the lab block you are enrolled in. You will be assigned to lab groups. These assignments will be modified every two to three weeks.

You must have a lab notebook. You must use a hard-bound book with quadrille-ruled paper and sewn-in pages. These are inexpensive and readily available at the bookstores and office supply stores. You must have a fresh notebook. You may not use notebooks from previous semesters, unless the pages that have been written

on have been removed. You should always bring the notebook to lab, along with writing utensils, a calculator, and your textbook. You should record all data, calculations, and answers to questions in your lab notebook.

Lab attendance will be recorded. Three unexcused lab absences will result in an automatic course grade of F for the semester.

Each lab will require a short lab report due the following week. Before leaving lab you will be required to have written a rough draft outline of your report in your lab notebook. Lab reports will only be accepted only if you attended the lab.

Exams

There will be two different categories of exams given. There will be four 50-minute multiple choice exams with MCAT style questions. There will also be three problem solving exams administered during the lab blocks. See the attached schedule for dates and times.

Final Exam

The final exam is comprehensive and will consist of a mix of multiple choice and problem solving question.

Grading and Grades

- 15% WileyPlus+20% Problem Exams+20% Labs+20% Concept Exams+25% Final Exam

Starting Grade Scale

90%≤A≤100%
80%≤B<90%
70%≤C<80%
60%≤D<70%
0%≤F<60%

Phones and PDAs

Sending or receiving messages with phones or other devices during class or lab will result in the loss of points equivalent to one lab quiz for each infraction. Using phones as calculators is prohibited.

Having a phone on or visible during an exam or quiz will result in an automatic F for the exam or quiz.

Absences

All labs, quizzes, and exams must be done during the scheduled times.
Consideration will be given for the following at the convenience of the instructor:

- Any student who is required to participate in off-campus, university-sponsored activities such as field trips, musical performances, judging teams, intercollegiate athletic events, etc. must obtain a letter from the faculty or staff member supervising the off-campus activity. The letter must contain specific information concerning the activity and date, be signed by the supervising faculty or staff member, and be submitted by the student to me at least one week in advance.
- Students that must miss a class because of illness, personal crises, mandated court appearances, parental responsibilities, and the like are required to submit a written explanation of the absence at least one week in advance. For emergency situations, students are required to call or e-mail me immediately followed by a written explanation.
- If one cannot come to class because of inclement weather one must call or e-mail me immediately.
- Students who attempt to gain advantage through abuse of this policy (e.g., by providing an instructor with false information) will receive disciplinary action and will fail this course.

Academic Misconduct

Academic misconduct include cheating, falsification, multiple submission, plagiarism, abuse of academic materials, and complicity or misconduct in research; the definition of academic misconduct is stated in the Student Handbook. Any student guilty of an act of academic misconduct will be subjected to one or more of the following penalties as outlined in the Student Handbook: 1. The students' grade in the course or on the examination or assignment affected by the misconduct may be reduced to an extent, including reduction to failure. 2. The student may be placed on probation or suspended from the university for a specific period of time. 3. The student may be expelled from the university. Expect to receive the maximum penalty for any academic misconduct.

Misc Policies

All other policies not explicitly covered in the syllabus can be found in the Student Handbook. For example, academic policies in general can be found beginning on page 26 and the sexual harassment policy can be found on page 93.

Americans with Disabilities Act

UCA adheres to the requirements of the Americans with Disabilities Act. If you need accommodation under this Act contact the UCA Office of Disability Services at 450-3135.

Schedule Spring 2012

	Month	Day	Subject/Event	Chapter-Sections
F	Jan	13	FCI, Syllabus, Math Concepts	1
M	Jan	16	Lecture: none Lab A: none	
W	Jan	18	Lecture: 1-D Kinematics Lab B: none	2
F	Jan	20	Lecture: 1-D Kinematics	2
M	Jan	23	Lecture: 1-D Kinematics Lab A: **LAB (Lab Skills)**	2
W	Jan	25	Lecture: 1-D and 2-D Kinematics Lab B: **LAB (Lab Skills)**	2, 3
F	Jan	27	Lecture: 2-D Kinematics	3
M	Jan	30	Lecture: 2-D Kinematics Lab A: **LAB (Constant Acceleration)**	3
W	Feb	1	Lecture: 2-D Kinematics Lab B: **LAB (Constant Acceleration)**	3
F	Feb	3	**EXAM 1**	1, 2, 3

	Month	Day	Subject/Event	Chapter-Sections
M	Feb	6	Lecture: Forces and Motion Lab A: **LAB (Newton's Laws)**	4
W	Feb	8	Lecture: Forces and Motion Lab B: **LAB (Newton's Laws)**	4
F	Feb	10	Lecture: Forces and Motion	4
M	Feb	13	Lecture: Forces and Motion Lab A: **PROBLEM EXAM 1** (1,2,3)	4
W	Feb	15	Lecture: Forces and Motion Lab B: **PROBLEM EXAM 1** (1,2,3)	4
F	Feb	17	Lecture: Work and Energy	6
M	Feb	20	Lecture: Work and Energy Lab A: **LAB (Friction)**	6
W	Feb	22	Lecture: Work and Energy Lab B: **LAB (Friction)**	6
F	Feb	24	Lecture: Work and Energy	6
M	Feb	27	Lecture: Impulse and Momentum Lab A: **LAB (Energy)**	7
W	Mar	29	Lecture: Impulse and Momentum Lab B: **LAB (Energy)**	7
F	Mar	2	**EXAM 2**	4, 6, 7
M	Mar	5	Lecture: Impulse and Momentum Lab A: **LAB (Collisions)**	7
W	Mar	7	Lecture: Impulse and Momentum Lab B: **LAB (Collisions)**	7
F	Mar	9	Lecture: Rotation	5, 8 , 9
M	Mar	12	Lecture: Rotation Lab A: **PROBLEM EXAM 2** (4,6,7)	5, 8 , 9
W	Mar	14	Lecture: Rotation Lab B: **PROBLEM EXAM 2** (4,6,7)	5, 8 , 9
F	Mar	16	Lecture: Rotation	5, 8 , 9

	Month	Day	Subject/Event	Chapter-Sections
M	Mar	26	Lecture: Rotation Lab A: **LAB (Centripetal)**	5, 8 , 9
W	Mar	28	Lecture: Rotation Lab B: **LAB (Centripetal)**	5, 8 , 9
F	Mar	30	**EXAM 3**	7, 5, 8, 9
M	Apr	2	Lecture: Solids and Fluids Lab A: **LAB (Torque)**	10, 11
W	Apr	4	Lecture: Solids and Fluids Lab B: **LAB (Torque)**	10, 11
F	Apr	6	Lecture: Solids and Fluids	10, 11
M	Apr	9	Lecture: Solids and Fluids Lab A: **PROBLEM EXAM 3** (5, 8 , 9)	10, 11
W	Apr	11	Lecture: Solids and Fluids Lab B: **PROBLEM EXAM 3** (5, 8, 9)	10, 11
F	Apr	13	Lecture: Temperature and Heat	12
M	Apr	16	Lecture: Temperature and Heat Lab A: **LAB (Thermal Expansion)**	12
W	Apr	18	Lecture: Temperature and Heat Lab B: **LAB (Thermal Expansion)**	12
F	Apr	20	**EXAM 4**	10, 11, 12
M	Apr	23	Lecture: Heat Transfer Lab A: PROBLEM PRACTICE	13
W	Apr	25	Lecture: Heat Transfer Lab B: PROBLEM PRACTICE	13
F	Apr	27	STUDY DAY	
W	May	2	FINAL EXAM 11:00am – 1:00pm	1 thru 13