University of Central Arkansas

PHYS 1410
COLLEGE PHYSICS 1
Spring 2013

Lecture   10:50am–12:05pm TR   LSC 170
24774   LAB A   12:00pm–2:40pm Mondays   LSC 112
24775   LAB B   2:50pm–5:30pm Mondays   LSC 112
http://faculty.uca.edu/~saustin/1410/1410_sp13.html

Instructor

Scott Austin
LSC 012   450–5907   saustin@uca.edu
Office hours: M 10am–12pm and T TH 1:40pm–2:40pm

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" 9th 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.

Evaluations

Student evaluations of a course and its professor are a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the twelfth week of instruction through the end of finals week by logging in to myUCA and clicking on the Evals button on the top right.

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 2013

	Month	Day	Subject/Event	Chapter-Sections
R	Jan	10	FCI, Syllabus, Math Concepts	1
M	Jan	14	Lab: **LAB (Lab Skills)**	2
T	Jan	15	Lecture: 1-D Kinematics	2
R	Jan	17	Lecture: 1-D and 2-D Kinematics	2, 3
T	Jan	22	Lecture: 2-D Kinematics	3
R	Jan	24	Lecture: 2-D Kinematics	3
M	Jan	28	Lab: **LAB (Constant Acceleration)**	3
T	Jan	29	Lecture: 2-D Kinematics	3
R	Jan	31	**EXAM 1**	1, 2, 3

	Month	Day	Subject/Event	Chapter–Sections
M	Feb	4	Lab: **LAB (Newton's Laws)**	4
T	Feb	5	Lecture: Forces and Motion	4
R	Feb	7	Lecture: Forces and Motion	4
M	Feb	11	Lab: **PROBLEM EXAM 1** (1,2,3)	4
T	Feb	12	Lecture: Forces and Motion	4
R	Feb	14	Lecture: Work and Energy	6
M	Feb	18	Lab: **LAB (Friction)**	6
T	Feb	19	Lecture: Work and Energy	6
R	Feb	21	Lecture: Work and Energy	6
M	Feb	25	Lab: **LAB (Energy)**	7
T	Feb	26	Lecture: Impulse and Momentum	7
R	Feb	28	**EXAM 2**	4, 6, 7
M	Mar	4	Lab: **LAB (Collisions)**	7
T	Mar	5	Lecture: Impulse and Momentum	7
R	Mar	7	Lecture: Rotation	5, 8 , 9
M	Mar	11	Lab : **PROBLEM EXAM 2** (4,6,7)	5, 8 , 9
T	Mar	12	Lecture: Rotation	5, 8 , 9
R	Mar	14	Lecture: Rotation	5, 8 , 9
M	Mar	25	Lab: **LAB (Centripetal)**	5, 8 , 9
T	Mar	26	Lecture: Rotation	5, 8 , 9
R	Mar	28	**EXAM 3**	7, 5, 8, 9
M	Apr	1	Lab: **LAB (Torque)**	7, 5, 8, 9
T	Apr	2	Lecture: Solids and Fluids	10, 11

	Month	Day	Subject/Event	Chapter–Sections
R	Apr	4	Lecture: Solids and Fluids	10, 11
M	Apr	8	Lab: **PROBLEM EXAM 3** (5, 8 , 9)	10, 11
T	Apr	9	Lecture: Solids and Fluids	10, 11
R	Apr	11	Lecture: Solids and Fluids	10, 11
M	Apr	15	Lab: **LAB (Thermal Expansion)**	12
T	Apr	16	Lecture: Temperature and Heat	12
R	Apr	18	**EXAM 4**	10, 11, 12
M	Apr	22	Lab: PROBLEM PRACTICE	13
T	Apr	23	Lecture: Heat Transfer	13
R	May	2	FINAL EXAM 11am–1pm	1 thru 13