

SYLLABUS FOR PHYSICS 111 Spring, 2004
ALL PHYSICS LABS BEGIN MONDAY, JANUARY 19

Instructor:	Dr. Carol L. Strong	Phone:	824-2832
Office:	Optics Building, Rm 238		(Do not call me at home!)
Office hours:	MWF 1:50-2:45pm	Class hours:	MWF 2:55-350pm
	TR 1:30-3:00pm		in MSC100
	or by appointment		
Email:	strongc@email.uah.edu		

Grader/TA's are available in the Physics Success Center, Optics Building Rm200;
office hours are posted on the door

Phone: 824-2476

Text: "Fundamentals of Physics, Parts 1 & 2", 7th edition

On-Line Homework: Wiley's e-Grade Plus

<http://edugen.wiley.com/edugen/class/cls2243/>

Optional Supplement: "Student Solutions Manual", 7th edition

by Halliday, Resnick and Walker; John Wiley & Sons, Inc., NY

This course covers the basics of particle motion called Newtonian mechanics. The concepts in this course tend to be less abstract than the two follow-on courses PH112 and PH113. Topics include linear motion of particles in one, two and three dimensions under the influence of gravitational forces and other applied forces, rotational motion of particles, work, energy, floating, motion of fluids, and simple harmonic motion. Students are required to have skills in algebra, geometry, trigonometry and basic differential and integral calculus and to have basic problem solving skills. Students are expected to become familiar with the language used by physicists, vector notations and the units of physics and to gain problem solving expertise with the formulations physicists use to describe the mechanical world.

GRADING POLICY: Course grade will be computed as follows:

Homework	10%
Test #1	20%
Test #2	20%
Test #3	20%
Final	30%

Random Quizzes Top two quiz grades will be used as extra credit in your final average.

Note: You cannot get an A without turning in homework!

Letter grades will be assigned as follows:

90 - 100	A
80 - <90	B
70 - <80	C
65 - <70	D
below 65	F

Note the inequalities! I do not round up.

HOMEWORK: Homework assignment due dates are listed below and are available at: <http://edugen.wiley.com/edugen/class/cls2243/>. All assignments must be submitted on-line by 7pm on the due date. Late submissions may be made on-line, but you must speak with me about why the submission is late before it will be accepted. All assignments are taken from the “Exercises & Problems” section at the end of each chapter. You should **read each chapter before I begin lecturing** about it and begin working on the assignments as soon as possible afterward. On-line homework instructions are attached to this syllabus.

HOMEWORK GRADING: Each homework problem will be graded automatically by the eGrade Plus. Scores and submission times will be transmitted automatically to my grade book. Each correct problem will be given 1 point for a total of 6 points per assignment and 90 points for the semester. You must submit your own work even though you are encouraged to study together

SOLUTION SETS: After the homework due date, solutions to homework assignments will be available for check out from the reserve section of the Library at the main desk for one hour or from me DURING OFFICE HOURS. Note that you must have a library card to check anything out from the library. Exam solutions will also be posted after they are returned in class.

EXAMS: I supply equation sheets on the exams. Multiple choice exams will reflect homework, derivations and problems that we work in class, and Sample problems in the text. Sample exams will be provided one week early for you to practice.

Exam grades may be scaled to give a class average of 75%. **No early exams.**

Notification of absence for an exam must be made within 24 hours of exam time. There is an answering machine on my office phone for this purpose; leave your name and a phone number where you can be reached so that I may schedule a makeup for you. Makeup exams, which may be **oral or more difficult**, will only be given for absences **with an appropriate written excuse**.

Exams will be returned in class at the **next class period**. Exams may also be picked up from me during office hours afterwards. I do not leave exams in the box outside my office.

ONLY CALCULATORS WHICH DO NOT STORE EQUATIONS WILL BE ALLOWED DURING EXAMS. Office Depot and Wal Mart usually carries these and others that are similar:

Casio FX-250	\$9.99
Texas Instruments TI-30X	\$10.99
Sharp EL520L	\$12.99

ATTENDANCE: It is YOUR RESPONSIBILITY to keep up with class lectures and announcements. Since exam problems may be based on work done in class, it is essential that you find someone in the class to take notes for you if you are to be absent. Changes in homework assignments and exam dates, although unlikely, do occur. Homework assignment changes will be noted on the eGrade Plus website. Also, lectures will be easier to follow, and homework and in-class assignments easier to work, if you **read each chapter before the lecture begins!** Quizzes may be given randomly to determine your reading comprehension and your grasp of fundamentals presented in previous lectures.

ASSIGNMENT SCHEDULE:

Date	Chapter	Homework Problems	Due Date
Jan 12	1 – Units	5, 9, 18, 23, 47, 48	Jan 21
Jan 14, 16	2 – 1D Motion	5, 13, 52, 92, 97, 105	Jan 26
Jan 19	HOLIDAY		
Jan 21	2		
Jan 23	3 – Vectors	4, 15, 18, 31, 34, 51	Jan 30
Jan 26	3 & 4		
Jan 28, 30	4 – 2D Motion	19, 23, 26, 30, 53, 59	Feb 4
Feb 2	4 & 5		
Feb 4, 6	5 – Force I	4, 13, 34, 45, 51, 63	Feb 9
Feb 9, 11	6 – Force II	7, 20, 26, 27, 32, 47	Feb 18

Feb 13	Exam #1 (Chp 1-4), multiple choice (Yep, a test on Friday the 13 th !)		

Feb 16, 18	7 – Energy I	14, 19, 29, 46, 50, 65	Feb 23
Feb 20, 23	8 – Energy II	5, 12, 23, 50, 51, 55	Feb 27
Feb 25 – Mar 3	9 – Momentum	7, 39, 46, 53, 87, 132	Mar 10

Mar 5	Exam #2 (Chp 5-8), multiple choice		

Mar 8, 10	10 – Rotation	4, 16, 39, 48, 64, 108	Mar 15
Mar 12	10 & 11		
Mar 15, 17	11 – Torque	7, 27, 37, 39, 42, 47	Mar 19
Mar 19	12 – Equilibrium	14, 23, 27, 31, 37, 47	April 7
Mar 22-26	HOLIDAY – SPRING BREAK		
Mar 29	12		
Mar 31	13 – Gravitation	6, 9, 33, 39, 58, 98	April 12

Apr 2 Exam #3 (Chp 9-11), multiple choice

Apr 5, 7	13		
Apr 9, 12	14 – Fluids	4, 29, 38, 42, 53, 91	Apr 16
Apr 14	14 & 15		
Apr 16, 19	15 – Oscillation	Not assigned yet	Apr 21
Apr 21	COMPREHENSIVE REVIEW AND EVALUATIONS		
Apr 23	NO CLASS TODAY		

April 30, Friday, 3:00-5:30pm BE ON TIME
Final Exam: Comprehensive, emphasis on last four chapters, all multiple choice

ON-LINE HOMEWORK INSTRUCTIONS

1 – Register on line at this Wiley eGrade Plus website:

<http://edugen.wiley.com/edugen/class/cls2243/>

- Click on the highlighted word: register
- Click Accept on the licensing agreement.
- In the boxes, enter your access/registration code from your book package.
(Note: this registration code can only be used one semester by one student)
- Fill in the blanks with asterisks for your student profile.
- Create a login name and password (case sensitive) by filling in the blanks with your student information. You will use this for future access to your eGrade Plus assignments and to view the results from past assignments; so write it down and keep it in a safe place!
- Click "OK" to Create Profile. You will be returned to your Class Homepage.

Do not add this website to your favorites by hand; use the “Bookmark this Page” button on the main login page.

2 – Assignments are listed on the eGrade Plus home page. You’ll see this home page immediately after you’ve registered and every time you log in to the eGrade Plus site.

3 – Click on the assignment you wish to work on.

4 – In the upper left of your screen, you’ll see the list of assigned problems. Click on the problem you wish to work on. Hint: If you immediately click SAVE ANSWER, even before attempting the problem, the numerical entries of the problem will not change while you work.

5 – You MUST enter answers in ALL blanks correctly before the problem will be considered correct. Any correct answers will be highlighted and the blank removed so you’ll know immediately which answers are still incorrect. See typing instructions under Suggestions on the next page of these instructions.

6 – Enter answers in all blanks, then click on SAVE ANSWER. If the answers are correct, they will be accepted and you can click on the next problem. If the answers are incorrect, hints may be provided and links to the text and various on-line help is available by clicking on the links noted just below the problem. Or you may choose to click on the next problem and come back later to the incorrect problem.

7 – If you need help at any time, there is a help button at the upper right of your screen that will walk you through many of your questions. Also, the TA’s in the Success Center will be available to help you during scheduled Success Center hours. The TA’s may be found in OB200 at the front of the Optics building on the 2nd floor, in the Commons Area on the 2nd floor and in the physics department’s computer lab in OB249. Center hours are: MTWRF 9-11am, T 4-7pm, MWR 2-7pm, and F 2-4pm.

8 – Once you've answered all problems, or you've answered all that you have time for, click **Review and Submit**, located just under the assignment list. You will see a list of the problems that you've attempted, those that are correct, and those that have not yet been attempted. You will also see your current score. Note that the counter in the lower left of your screen tracks the number of times you have submitted answers. You are limited to 5 submissions. **YOUR SCORE WILL NOT APPEAR IN MY GRADEBOOK UNTIL YOU SUBMIT!!**

- You may choose to submit your current answers; if so, click the SUBMIT button.
- If you choose to continue working on a problem, just click on that problem in the assignment list and continue as before.
- You can logout at this time using the Logout button in the upper right of your screen. If you have not hit SAVE ANSWER on a problem, the numeric values will change when you log on again. If you choose not to submit, any answers you currently have correct will still be correct when you log on again UNLESS there are any system difficulties that require Wiley to reboot, so be sure to document how you achieved a correct answer if you decide not to submit.

9 – After submitting your assignment, you can logout using the Logout button in the upper right of your screen. You may return at any time before the assignment is due to enter solutions to incorrect or un-answered problems, but you are limited to 5 submissions per assignment.

10 – Late submissions will be automatically marked late in my grade book. These submissions will not appear as part of your grade unless you come discuss the reason with me.

11 – The assignment will be removed from the assignment list a few days after the deadline; however, you may still access your work by clicking on the chapter assignment as listed in your personal gradebook.

Suggestions

- Before you begin entering answers online, work out answers to assigned problems in your text. Your hand worked problems will not be graded, but they are the **ONLY RECORD** that you'll have of how you achieved the correct answer!
- The online version of the text's problem will have algorithmically changing numerical values; i.e. the numbers in the text and those you'll see on the screen will be slightly different and will change every time you log in until you hit SAVE ANSWER! The numbers will also be different for every student. It is best to work your answers ahead of time using variables instead of numbers, then make final calculations while you're logged into the eGrade site.
- Check carefully the significant digits of numerical values presented to you in the problem. The numerical value with the **LEAST** number of significant digits controls the significant digits in the final answer. I decided whether or not to make the significant digit controls active or to use a % tolerance instead. Check each assignment to be sure which controls are active.
- There is a pull-down menu for units.
- Scientific notation can be entered as follows: 156000 is entered as 1.56E5 or 1.56e5
Note there are no spaces and E (or e) represents the exponential base 10.

Syllabus

Physics 114, Fall 2004

Scope of Course:

PH 114 is an independent, 1 credit hr. lab course normally taken in parallel with PH 111. The lab course includes the experimental study of classical mechanics and includes experiments with oscillations, forces, velocities, energy and momentum. The sequence of experiments is arranged in the same order as the topics are normally covered in the lecture course. You'll practice skills such as error analysis, basic statistics and plotting of data. This term you'll operate computer-automated equipment that will assist in data taking and in the analysis of the experimental data.

Lab Manual: The manual is locally published and is available in the bookstore.

Location and Length:

PH 114 meets in room 212, Wilson Hall. The scheduled lab period is 2 hours.

Instructor:

The instructor is Dr. Abdalla M. Elsamadicy, he will be assisted by a graduate teaching assistant. Dr Elsamadicy along with the TA will announce their office hours and where they will be. The TA is responsible for explaining the lab experiment, conducting the lab class, grading your written reports and Dr. Elsamadicy will keep the records to determine your semester grade.

Complaint Procedure:

If you have difficulties or complaints related to this course, your first action usually should be to discuss them with Dr. Elsamadicy, the Physics Lab Coordinator. He may be contacted in room 246 Optics Bld., by phone at 824-2842, or by email at elsamaa@email.uah.edu. If such a discussion fails to resolve your difficulties, you should contact Professor Lloyd W. Hillman, Chair of the Department of Physics. Professor Hillman's Office is RM 201 in the Optics Building, 824-2481 and email is HillmanL@UAH.edu. If you are still unsatisfied, you should discuss the matter with the Associate Dean of the College of Science. The Associate Dean's office is MSC207 in the Material Science Connector Building.

Students with Disabilities

Anyone who has a disability that may require a modification of seating, testing, or other class procedures, please see the lab instructor after class or during office hours to discuss appropriate modifications.

Lab Goals: The major goals of this lab course are to give you direct experience with physical phenomena, Experience in connecting the real world to concepts and theories, and an introduction to the art of experimentation and measurement

Grading and Attendance:

Semester grades are based on the individual grades for 9 weekly experiments. Therefore, your attendance and actually doing all scheduled experiments is absolutely essential. Should you have a valid, excused absence, please arrange a time with your lab instructor to perform the make-up lab as soon as possible.

Experiments:

The schedule of experiments is posted at the entrance to the lab room.

Experiments and Schedule

DATE	EXP. No.	TITLE
Aug. 30 – Sep. 3	First week	No Lab
Sep. 6 – 10	114 - 1	Simple Pendulum [A]
Sep. 13 – 17	114 - 2	Inclined Plane & Resolution of Force
Sep. 20 – 24	114 - 3	Projectile Motion
Sep. 27 – Oct. 1	114 - 4	Newton's Laws of Motion [A]
Oct. 4 – 8	Fall break	No Lab
Oct. 11 – 15	114 - 6	Conservation of Energy [A]
Oct. 18 – 22	-----	<u>Mid-term Exam.</u>
Oct. 25 - 29 [A]	114 - 7	Collision & Conser. Of Momentum
Nov. 1 – 5	114 - 8	Torques & Equilibrium
Nov. 8 – 12	114 - 9	Moments of Inertia [A]
Nov. 15 – 19 [A]	114 - 10	Oscillation - Spring Mass Systems
Nov. 22 – 26	Thanks giving	No Lab
Nov. 29 – Dec. 3		<u>Final Exam.</u>