

PHYS 3113- Mechanics - Fall 2009 Syllabus

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Class Meeting: MWF in PHYS 133 – 12:30-1:20pm – I teach UPII at 1:30pm in SCEN 110, so I will not be able to take questions after class. You are welcome to drop in at my UPII lab (SCEN 110 – 1:30-3:30pm MW) for mechanics questions.

Office Hours

- SCEN 110 – MW 9:30-10:20am, F 10:30-11:30am – These are primarily for UPII students, but you may fit a question in edgewise.
- PHYS 134 – M 4:00pm
- Additional TA office hours will be posted at website. Justin Mitchell has agreed to help with the class. Give Justin a plug Nathan and AJ. I would like you to make heavy use of Justin's scheduled office hours.

Course Website: <http://physinfo.uark.edu/mech09> - All homework assignments, solutions, and lecture notes will be posted at the course website. Grades will also be posted with permission.

Old Website: I have left my mechanics site up. It contains the solutions to problems, lecture notes, and old tests. The course covered more than we will cover this semester and in a slightly different order. You may or may not find it useful.

<http://physinfo.uark.edu/mechanics/>

Course Materials:

Required Textbook – Fowles *Analytical Mechanics*

Other Materials – You will be allowed to bring a math handbook to the exams (not a math textbook). I suggest *Schaum's Outline Series Mathematical Handbook*. You may also bring a copy of the material inside the cover of Griffith's *Introduction to Electrodynamics*

Schedule of Topics

The following schedule is extremely preliminary. We will get to things as we get to things.

Week 9 beginning 10/19: Chapter 2, 3.1-3.6, 4 Review

Week 10 beginning 10/26: Chapter 10 – Lagrangian Mechanics - Test 2 Weds. Oct 28th – 6-9pm

Week 11 beginning 11/2: Chapter 11.1-11.4 – Normal Modes

Week 12 beginning 11/9: Chapter 6 – Central Forces – Test 3 – Thursday Nov 19th – 6-9pm

Week 13 beginning 11/16: Chapter 7 – Systems of Particles

Week 14 beginning 11/23: Chapter 7 Continued - Thanksgiving

Week 15 beginning 11/30: Chapter 8 – Two-Dimensional Rotation

Week 16 beginning 12/7: Chapter 9 – Three Dimensional Rotation – Brief Summary

Final Exam: Friday Dec. 11th at 7:30am in PHYS 133

Inclement Weather Policy: Unless classes have been officially canceled by the UA, students are expected to attend all class meetings and examinations. If the student lives someplace from which they feel it would be dangerous to travel to the University, they should call and inform their instructor or leave a message for their instructor with the physics department. Students missing a test for this reason will be required to take an alternate test that I will attempt to make of the same difficulty as the missed exam. You are responsible for making the decision to travel in bad weather. I never want a student to put themselves at risk to attend class.

Grading Policy The class is graded on a straight percentage scale >85% A, >70% B, >60% C, >50% D, otherwise F. Grades will be posted online with permission.

Illness Policy Do not come to class if you have the flu or flu-like symptoms. Email me, and stay at home until you are better.

Assignments There will be about 10 homework assignments each worth 15 points, three hourly exams each worth 150 points, and a final exam worth 150 points. The first test, due to testing problems, is optional. It will be counted toward your grade if it increases your grade, otherwise it will be dropped. You may drop ½ of one of the remaining two tests or the final. Exams are closed book, but you may bring a formula sheet (one page 8 1/2 by 11 both sides), a math handbook, and the formulas from the inner cover of Griffiths. Exam format: five questions, but work four.

By my count, HWK 1, 2, and 3 were assigned, collected, and graded in a normal manner. Homework 4 was assigned and made optional and then reassigned. I'm not sure how an optional homework is supposed to be added to the other assignments. Homework 3-extra was supposed to be graded as another homework set, but contained problems best worked using techniques from other sections. To cover all these anomalies, I will give you three dropped homework assignments: one drop for the normal one dropped homework I give every class, one drop to cover HWK3-extra, and one drop for HWK 4. You may have until the end of the class (Dead Day) to turn in HWK 4 as promised, but Test 2 will include material from Chapter 4.

Reading Assignments The reading assignment for the week is the chapter to be covered on schedule on the previous page.

Academic Dishonesty Instances of Academic Dishonesty will be handled in accordance with the guidelines outlined in the University of Arkansas Undergraduate Studies Catalogue. I take cheating very seriously. If you are caught cheating, I will ask that you immediately drop the class.

Final Grades At the end of the course, final grade decisions are mine. I reserve the right to give students near a grade border or with special circumstances a higher grade than they have mathematically earned. In extraordinary circumstances, I reserve the right to give a student a lower grade than they mathematically earned. (This has only happened once, don't be the second.)