On-Line Syllabus, Fall 2008

PHYS 321: Introductory Modern Physics II

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• Course Description

PHYS 321 is a 3-credit course.

Prerequisites: PHYS 320 and MATH 227, or equivalents
Corequisites: none

• Required Text

Text: Modern Physics, 4th Ed. by Tipler and Llewellyn

• Course Goals and Philosophy

Introductory Modern Physics II is a continuation of the introduction to non-classical physics. A calculus course equivalent to MATH 227 is a prerequisite. Calculus will be an integral part of the course work.

The goal of early physics classes is to introduce the fundamental laws and to develop good problem solving skills. At this introductory level, the material will be a cartoon of the real world, often simplified to an unrealistic and often unsatisfying level. Successful students will learn to...
see behind the elementary problems introduced in this class and apply the overall concepts to the complex world. Each student will be evaluated on the ability to communicate her/his progress to the instructor. Thus, the process of solving a problem is more important than the final answer. Working to solve sample problems, both those assigned for homework and as many additional exercises as possible, is the single most important key to success in this course. However, it is not possible to learn this material just by doing problems. The student will need some understanding of how the main concepts and laws came about. Derivations will be kept to a minimum. Memorization will not be a large component of the course. On the other hand, each student will be expected to know enough about the definitions, concepts and techniques to be able to expand their knowledge and apply it to new situations.

It is important that students take responsibility for their education. Ask questions, both inside and outside the classroom. Discuss the material with friends and classmates how this course relates to the real world. Manage your time and do not cram for exams. The student and professor make a team, you both want to learn the material and earn a good grade. Click here to view a brief essay on how to achieve academic success.

NOTICES: Bulletins, schedule changes, and general announcements will be made in class, and also posted in the cabinet outside 201 TCCW. Please check frequently. Homework solutions will be available on the course homepage.

• Students with Disabilities

Students with disabilities who require accomodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Service, 445 Potter Hall, (270) 745-5004 V/TDD. Please do not request accomodations directly from the professor without a letter from the office of Student Disability Services.

• Grading

The final grade will be determined from the following formula:

\[
\text{Final Grade}=0.25 \text{Homework Avg} + 0.50 \left( \text{Test1}\% + \text{Test2}\% + \text{Test3}\% \right) + 0.25 \text{Final}\%
\]

Your grade for the course will be determined by your ultimate point total in comparison with the rest of the class. Appeals of test and homework grades will be considered up to a week after return of work. Later changes in grades are entirely at my discretion!

• Office Hours

I consider myself to be open and accessible to my students. You are always welcome to drop by my office to seek advice, discuss your progress, or ask questions. If my door is open and I am around, then I will do my best to make time to sit down with you. Anyone who finds that my
availability does not live up to my desires can catch me during my scheduled office hours or make an appointment at our mutual convenience.

- **Attendance Policy**

  I expect prompt and regular attendance. Material presented in lecture takes precedence over the text. Lectures will largely follow the order of the book, though lecture content may differ somewhat from the text. Students are advised to keep their notes up to date and to read the text as an accompaniment to their notes. Missed classes should be covered by obtaining notes from other students.

  You must attend all tests and the final exam at the scheduled times. If you are unable to take an exam with the rest of the class you must notify the instructor before the regularly scheduled exam time. The only makeup exams allowed after the class takes the test will be for students with a verified excuse of illness or extraordinary crisis. A missed exam will otherwise be scored as a zero.

- **Policy on Collaboration**

  All work turned in for a grade must be your own. Collaboration is allowed only up to the point at which you determine the approach to solving a problem. When it comes time to actually solve a given problem and record the answer for grading, each student must work independently. No credit will be given for work that is not demonstrably your own. When solutions which are too similar are submitted for grading, a grade of zero will result for all parties involved. With the above restrictions in mind, studying and working in groups is strongly encouraged.

- **About the Homework**

  Neatness and organization count! Make certain that the work you turn in for a grade is concise, legible, and easy to follow. The grader will not give credit if the solution is not complete or not easy to follow. State your assumptions, define your variables, give the relevant equations, and show the steps as you manipulate the formulae to solve the problem. It is strongly advised that you do not substitute numerical values for variables and constants until the final step. Clearly indicate your final answer. Clear, logically outlined homework will be valuable study aids when it is time to study for exams.

  Homework assignments will be distributed in class. Most, but not all of the assigned problems will come from the end-of-the-chapter problems in the text. It is in your interest to work through all the examples in the chapter and two or three unassigned but related end-of-chapter problems for every assigned problem.

  Completed homework assignments are due at the beginning of class on the date given for each assignment. Solutions will be distributed in class, either during the lecture for which the homework was due or during the following lecture. No homework will be accepted after homework solutions are distributed. Assignments turned in after lecture begins, but before the
solutions are posted, will be assessed a 25% penalty. The instructor will make every attempt to return the graded homework within a week. Appeals of homework grades will be considered up to one week after work is first returned to the class. Later changes in grades are entirely at the instructor's discretion.

• **About the Exams**

The questions will be primarily quantitative problems. A diligent effort to solve assigned homework and additional problems is the best strategy for a passing grade. However, be aware that the problems on the exams will be variations of the homework; a firm grasp of the big picture is needed to score high on exams.

You are required to bring pencils and a calculator to each exam. The instructor will supply a sheet for each test with formulae and constants. No other outside material, notes, texts, etc., will be allowed.

Individual exam grades will not be curved. Appeals of exam grades will be considered up to one week after tests are first returned to the class. Later changes in grades are entirely at the instructor's discretion.

• **Course Schedule** A weekly schedule of the material to be presented, with appropriate sections of the textbook, is available: [PHYS 321 Course Schedule](#).