

UNIVERSITY OF HAWAII AT MANOA

**PHYS 274, General Physics III, Spring 2010**

- Instructor: Prof. Klaus Sattler, WAT 306, Tel. 956-8941, [sattler@hawaii.edu](mailto:sattler@hawaii.edu)  
Office Hours: Wed 11:30-12:30
- Location, Time: WAT 420, 8:30-9:20 MWF
- Textbook: University Physics Vol.3, 12<sup>th</sup> Edition, by Young and Freedman
- Homework: Homework assignments will be given once a week (usually on a Wednesday) and should be returned at the beginning of the class at the indicated date (usually on the Friday of the following week, at the beginning of class). The returned homework will be graded. If returned too late, the assignments will not be graded.
- Quizzes: Quizzes are short tests, which take about 5-10 minutes. Dates for quizzes will be announced in class.
- Grader: Name and office hours: will be announced
- Tests: Tests will be given every second week, on a Monday. The results will be considered in your final grade assessment. The tests begin at 8:30 straight; there is no handout of the sheets after 8:35. Close book but equations, physical constants and conversion factors are given. Pocket calculators are allowed, but no Personal Computers.  
Test Dates: T1 (Mo Jan 25), T2 (Mo Feb 8), T3 (Mo Feb 22), T4 (Mo March 8), T5 (Mo March 29), T6 (Mo Apr 12)
- Final Exam: Fr May 14, 7:30-9:30, WAT 420
- Missing Exams: There will be no make-up tests. However, the test with the lowest points will be dropped.
- Class Attendance: We suggest attending the lectures. Students who regularly come to class have a better chance to receive good grades.
- Class Protocol: The lecture hall should be a place for learning while respecting each other. Behavior, which distracts others will not be tolerated. There will be no talking other than in public dialogue; cell phones should be switched off; no eating, no skateboarding, no pets, no reading or sleeping; and no frequent leaving and returning to the classroom. Please, if you don't come to class to learn physics, don't come.
- Being Late: If you are more than 5 minutes late for the class or need to leave earlier, you should skip this class.
- Grading: Homework, Quizzes: 30%  
Tests: 50%  
Final Exam: 20%
- Grade Scale: A (85-100%), B (70-85%), C (55-70%), D (40-55%), F (<40%)
- Class I.D.: Every student is given a class identification number. Please place it on the examination and homework sheets.
- Last day of class: Wednesday, May 14, 2010
- The Syllabus may be changed by the professor at any time (will be announced in class).

**Student Learning Outcomes (SLOs):**

Students successfully completing this course will

1. demonstrate knowledge of fundamental concepts in modern physics and will be able to apply this knowledge to solve problems in elementary particles, nuclear, atomic and molecular physics, solids and relativity.
2. find a wholly new way of thinking about the world.
3. be able to deal with conceptually rich and technically difficult theoretical problems.
4. have learned how to apply concepts of mathematical methods (covered in previous math courses) such as trigonometric functions, hyperbolic functions, differentiation and integration techniques, complex algebra, differential equations, Fourier series, vector spaces, operators and matrices, multivariable calculus, vector calculus, and tensors.
5. be able to read and understand scientific articles in modern physics.
6. know how to use the theory to discuss complex natural phenomena quantitatively.
7. have learned the techniques to solve, through discussion and reading, a wide range of specific theoretical problems, including their backgrounds and implications.
8. have formed a platform for future studies and professional tasks.
9. have experienced the adept application of physics and mathematics to solve real life problems.
10. have acquired a significant and deep-rooted knowledge in the understanding of the physical phenomena and became inspired by a new philosophy which extends far beyond our common sense thinking.