

PHYS 10 – Conceptual Physics**SYLLABUS**

Class Hours MW 12:00 p.m. – 01:15 p.m. (Lecture) **Room** : PHYS 70
Tue 09:00 a.m – 10:50 a.m. (Lab)

Class No 57020

Instructor Sharon Wu

Phone 638-3641 ex-3497

Office Hours M 9:00 am – 10:30 am; LRC 106

W F 9:30 am – 10:30 am; FEM 4D

or By appointment

Office FEM 4D

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Course Objectives:

In the process of completing this course, students will:

- A. Understand and apply the basic concepts in physics.
- B. Perform some of the simpler calculations in the areas of physics.
- C. Perform simple physics experiments to acquire a better understanding of the more difficult concepts in general physics.
- D. Demonstrate basic laboratory techniques, such as measurement, unit conversions, and data analysis.

Learning Outcomes:

Upon completion of this course, students will be able to:

- A. Describe what physics is, what natural phenomena are explained by the science of physics, and what physicists study;
- B. Identify the basic physical laws of nature;
- C. Apply theory and experiment to scientific inquiry;
- D. Apply physics in other science related courses.

Course Prerequisite:

None

Textbook:

“Physics A World View”, Kirkpatrick/Francis, 6th edition, Thomson/Brooks Cole Publishers

Blackboard:

Blackboard is used to post course information, assignments, and announcements.

To log-in Reedley College Blackboard:

User name: your student ID

Password: (* Be sure to change your password after you login)

Course Outline:

- A. Measurement, theory and scientific thought
 - a) Systems and units of measurement
 - b) Scientific theory and experiment
- B. Mechanics and motion
 - a) Position, velocity and acceleration
 - b) Newton’s laws (including gravitation)
 - c) Energy, work and momentum
- C. Types of matter
 - a) Solids
 - b) Liquids
 - c) Gases
- D. Waves and Sound
 - a) Properties and types of waves
 - b) Sound

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- E. Thermodynamics
 - a) Heat
 - b) Temperature
 - c) Laws of thermodynamics
- F. Charges and magnets
 - a) Electric charge properties
 - b) Electric fields
 - c) Magnets and magnetic fields
- G. EM waves, light and optics
 - a) Oscillations of EM fields
 - b) Light as an EM wave
 - c) Refraction and reflection
 - d) Diffraction
- H. Relativity
 - a) Space-time
 - b) Length contraction
 - c) Time dilation
- I. Quantum Mechanics
 - a) Atomic waves
 - b) Uncertainty

Homework Assignments:

Homework is assigned for each chapter. Homework should be done on 8.5" by 11" lined paper, stapled on upper left hand corner, with your name, class name (PHYS 10), chapter number on the upper right hand corner. Homework will be graded on **correctness, completeness, neatness, and effort** of the entire assignment. Points will be deducted for late homework. Being absent the day homework is collected does **not** entitle you to turn in the homework late without penalty!

Laboratory:

This class has a lab that is mandatory. There are data sheets that you will need to complete as part of your lab activity that will be due at the end of the lab session. You are required to follow a number of safety precautions in the laboratory. You must read and sign the safety agreement before beginning of the first lab.

Tests:

A test every two or three chapters and one final exam. The tests and final have conceptual questions that are multiple choices and detailed physics problems that will need to be solved. Early tests can be arranged with a very good reason. A more **difficult** late test can only be arranged if you have an excuse verified by an impartial party (i.e., a doctor or a court note).

Grading:

30% of the final grade points are from the average score of homework assignment
 20% of the final grade points are from the average score of laboratory work
 50% of the final grade points are from the average score of midterms and final.

Final grade is assigned using following scale:

90-100 %	A
80- 89 %	B
70- 79 %	C
60- 69 %	D
< 60 %	F

- ❖ If you have perfect attendance and your grade is within 1 point (or 1%) of the next higher letter grade, the instructor will award you the next higher letter grade.

PHYS 10 – Conceptual Physics**Important Dates:**

Class begin	Monday	01/12/09
Last day to register	Friday	01/30/09
Last day to change to/from a Pass/No-Pass grading basis	Tuesday	02/17/09
Last date to drop:	Friday	03/13/09
No classes:		
Martin Luther King, Jr. Holiday	Monday	01/19/09
Lincoln Holiday	Friday	02/13/09
Washington Holiday	Monday	02/16/09
Spring Break	Mon – Fri	04/06/09 – 04/10/09
Final Exam	Wednesday	05/20/09 12:00 pm – 1:50 pm

Attendance:

Attendance will be taken at beginning of each class. Students are expected to attend all class meetings, be on time, and be in class the entire class session. Students, who leave the class before the end of class, will be counted as tardy. Two tardiness count as one absence. Your classmates and I would greatly appreciate that you take care of your personal needs (i.e., using the restroom, getting a drink...etc.) before the class begins.

Students will be dropped from the class if they fail to attend the first class session of the semester.

During the semester up to final drop date, any student who missed more than two weeks of class meetings will be dropped from this class (8 classes).

Student Conduct:

Students are expected to conduct themselves in a responsible manner in the classroom. Specific rules and regulations have been established in Board Policy 5410. A copy of this policy is available in the college library, the Admissions Office, the Vice President of Student Services, the Vice President of Instruction's Office, and in the Student Activities Office. Failure to adhere to the accepted standards will result in disciplinary action.

Accommodations for students with disabilities:

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Plagiarism and Cheating Policy:

Cheating and plagiarism is prohibited in the class. Incidents of cheating and plagiarism will result a failing grade on the particular examination or assignment in question.