Syllabus **Phys 272** Spring Semester 2019
Principles of Physics II

Professor: Wilfred Hok Kong LEE, Ph.D.

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Office Hours:
Mon   11:45 – 1:15
Wed   11:45 – 1:15
Thu   11:45 – 12:45

Important Dates:
Last Day to Add   Feb 10
Last day to drop without a W   Feb 10
Last day to drop and receive a W   Apr 27

Misc Info:
MasteringPhysics course ID: SP19PHYS272
Midterm   Ch 21-26   Apr 3 (Wed, may change)
Final   Ch 12, 21-32   May 22 (Wed) 1:10 – 3:10

Textbooks:
Required: *University Physics with Modern Physics with MasteringPhysics™, (14th edition)* by Young and Freedman

Course Homepage:
The main course website will be http://dept.swccd.edu/hlee, where you will find the syllabus, lecture notes, and tutorial videos and homework solutions.

Homework (MasteringPhysics):
For homework we will be using the Mastering Physics program online http://www.masteringphysics.com/. You have up to 4 attempts per question. Your work will be graded automatically and posted online. Detail for how to log onto Mastering Physics is in a separate handout. You will need the course ID given above.

The pricing is for MasteringPhysics $115.95 with the e-book option and $68.95 without (as of Jan 2017), the subscription is good for two years. If you purchase the e-book then you do not need to buy a physical copy of the textbook. However, you should also keep in mind that the e-book cannot be resold to someone else, and you will not be able to access the e-book once your access code expires after two years. Here is the publisher's link:
http://www.mypearsonstore.com

Other Useful sites:
http://dept.swccd.edu/hlee (My SWC page)
http://www.masteringphysics.com/ (Mastering Physics – Homework)
http://phet.colorado.edu/ (Physics Education Technology)

Prerequisite: Phys 270 and Math 251, or equivalent.

Course Description:

3 Units. Second of a three-semester, calculus-based sequence intended mainly for majors in the physical sciences and engineering. Covers electricity and magnetism, basically Ch 21 to 32 of Young & Freedman. See course outline below.

Course Objectives:

To prepare you to become an astronomer, chemist, computer scientist, engineer, geologist or physicist and to get you one step closer to your degree. Passing this class indicates the ability to understand and apply the concepts in this course to various physics problems. Your performance will be measured based on the conceptual understanding as well as the ability to use mathematics to state and solve problems.

Tentative Course Outline:

Ch 21   Electric Charge and Electric Field
Ch 22   Gauss' Law
Ch 23   Electric Potential
Ch 24   Capacitance and Dielectrics
Ch 25   Current, Resistance, and Electromotive Force
Ch 26   Direct Current Circuits
Ch 12   Fluid Mechanics
Ch 27   The Magnetic Field and Magnetic Forces
Ch 28   Sources of Magnetic Field
Ch 29   Electromagnetic Induction
Ch 30   Inductance
Ch 31   Alternating Current
Ch 32   Electromagnetic Waves

Grading:

Your final course letter grade will be based on your overall score. Individual letter grades will not be formally assigned to exams. Letter grade will be determined approximately as follows:

    100 – 85%   A
     84 – 75%   B
     74 – 60%   C
     59 – 50%   D
     49 – 0%   F

Note that the above scale is only an approximation and may be revised near the end of the semester.

Evaluation:

The overall grade will be determined by your performance in the mid-term exam, final exam, quizzes, homework. They carry different weight in computing your overall grade, as summarized below:

Homework: 5%
Quizzes: 10%
Mid-term Exam: 40%
Final Exam: 45%

Homework:
Some of the homework problems will become questions on the exams. You will not know which homework questions will show up on an exam until you take the exam, so you must do all homework questions to properly prepare for the exams. Late homework will receive zero points. Being too busy is <u>not</u> an acceptable excuse for handing in homework late.

Quizzes:
There will be a quiz every two to three chapters. The exact time will be announced in advance. If you cannot make it to class you will receive zero points unless you contact me <u>*in advance*</u> to arrange for a make up quiz.

Mid-term and final exam:
Mid-term will cover roughly the materials from the first half of the course, while the final exam will cover the entire semester. Many of the exam questions will be from the homework problems, but I may include a few questions from elsewhere. If you cannot make it to the exams you will receive zero points unless you contact me <u>*in advance*</u> to arrange for a make up exam.

Student Learning Outcomes:

Students will analyze observations from different physical situations and recognize the underlying laws of physics that govern wide-ranging phenomena seen in nature.

Students will formulate and analyze physics problems mathematically by translating words into mathematical equations and find the quantitative solutions.

General Policy:

For information regarding attendance, classroom policy, misconduct and tutorial services please refer to the syllabus addendum on the course website.

Disclaimer:

The content of this syllabus or course outline may change during the semester. It is your responsibility to keep track of the changes.