

Professor: Wilfred Hok Kong LEE, Ph.D.

Office: 243

Mail box: MSE Office 125

Contact Info:

Email: hlee@swccd.edu

Phone: X5533

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: **SP19PHYS274**

Midterm Ch 15-20, 32 Apr 3 (Wed, may change)

Final Ch 15-20, 32-40 May 20 (Mon) 10:40 – 12:40

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/new/simulations/> (Physics Education Technology)

Prerequisite: Phys 272 and Math 252, or equivalent.

Course Description:

3 Units. Third of a three-semester, calculus-based sequence intended mainly for majors in the physical sciences and engineering. Covers optics and modern physics, basically Ch 15 to 20 and 32 to 40 of Young and 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 17	Temperature and Heat
Ch 18	Thermal Properties of Matter
Ch 19	The First Law of Thermodynamics
Ch 20	The Second Law of Thermodynamics
Ch 15	Mechanical Waves
Ch 16	Sound and Hearing
Ch 32	Electromagnetic Waves
Ch 33	The Nature and Propagation of Light
Ch 34	Geometric Optics and Optical Instruments
Ch 35	Interference
Ch 36	Diffraction
Ch 37	Relativity
Ch 38	Photons, Electrons, and Atoms
Ch 39	The Wave Nature of Particles
Ch 40	Quantum Mechanics

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 and 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 not 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 *in advance* 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 *in advance* 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.