

UNIVERSITY OF HAWAII AT MANOA

PHYS 272A in-person class, General Physics II, Spring 2023

Instructor:

Prof. S. Wang Yoon, swyoon@hawaii.edu
Office: WAT 413
Office Hours: By appointments and Q&A after the lectures.

Course Description:

Calculus-based introductory general physics for future scientists and engineers.
Basics of electromagnetism and optics will be covered.

Textbook:

University Physics, by Young and Freedman, 15th Ed., Chapters 21-33
Pearson Student Access through Laulima
Course ID through Laulima
The “ebook with Mastering Physics” will be used.

Lectures, Time, Location:

In-person lectures, TR 09:00-10:15a @ WAT112
The Q&A session will be held after the lecture.
The lecture slides for each week will be posted in Google Drive.
The lecture will generally cover one chapter per week.

Recitations:

Detailed instructions will be provided by the recitation TAs. They are based on the problem-solving method and more likely “advanced or applied problem solving” sessions.

Learning outcomes:

Understanding and applying basic principles of physics to better understand the world around us. At the end of this course, students should be able to:

- understand and discuss basic topics in Physics
- solve problems by making appropriate approximations and applying physical principles and equations
- utilize the understanding to recognize physical processes happening in natural phenomena, in technology and in everyday life.

Class Folder:

Syllabus, schedule and other announcements are posted in our shared folders named ‘2023_Phys272A_Yoon’ on Laulima and the Google Drive. You will receive access emails.

Class ID: Every student will have a class identification number assigned for the class.

Homework:

Assignments: “Preview; reading lecture materials before the class” and “Review; solving the textbook examples after the class.”

You do not need to submit the homework assignments every week, but solve them in a Class Notebook such as a Composition Notebook. You should compare and review them with the solutions in the textbook. The solutions to assigned example problems in the textbook will not be posted. The due will be the date of Final Exam.

Your Class Notebook will be checked during the Final Exam. The Class Notebook should be a Composition Notebook, not Electronic Tablet, Loose-leaf or Spiral Notebook.

Tests: Two ‘75-min’ closed book midterm tests in classroom.

Test Dates: Test 1 (Thr Feb 16), Test 2 (Thr Mar 30).

Makeup tests will not be permitted, unless arranged at least 2 weeks in advance due to a scheduled UH-activity, or in cases of *documented* emergencies.

Final Exam: Two-hour closed book exam in classroom. Exam Period TBA.

Grading: Test 1&2 40%, Final 30%, Attendance 10%, Class Notebook w/ HWs 20%

Grade Scale: A⁺ (91-100%), A (81-90%), B⁺ (76-80%), B (71-75%),
C⁺ (61-70%), C (51-60%), D⁺ (46-50%), D (40-45%), F (<40%)
This may be subject to change based on the overall performance of the class.

Last Day of Instruction: Wed May 3, 2023.

Student Conduct

Review the UH Systemwide Student Conduct Code for more information.

http://www.studentaffairs.manoa.hawaii.edu/policies/conduct_code/

Accommodation Statement

The University of Hawai‘i is committed to a barrier-free campus and provides accommodations to ensure students with disabilities equal access to education.

Visit the KOKUA website. KOKUA can be reached at (808) 956-7511 or (808) 956-7612, email: kokua@hawaii.edu.

The syllabus may be changed by the instructor at any time. It will be announced in the class.

Lecture Schedule:

We will generally aim to cover one chapter of the textbook per week, beginning with Chapter 21. The following is a *tentative* schedule for the semester, but may be revised depending on lecture progress. Check back both in class and on Laulima for updates.

Week 01 (1/10, 1/12): Introduction

Week 02 (1/17, 1/19): Chapter 21 – Electric Charge & Electric Field

Week 03 (1/24, 1/26): Chapter 22 – Gauss’s Law

Week 04 (1/31, 2/02): Chapter 23 – Electric Potential

Week 05 (2/07, 2/09): Chapter 24 – Capacitance & Dielectrics

Week 06 (2/14, **2/16**): Chapter 21-24 Review, **Midterm 1**

Week 07 (2/21, 2/23): Chapter 25 – Current, Resistance, & Electromotive Force

Week 08 (2/28, 3/02): Chapter 26 – Direct Current Circuits

Week 09 (3/07, 3/09): Chapter 27 – Magnetic Field & Magnetic Forces

Week 10 (3/14, 3/16): Spring Break - No lectures

Week 11 (3/21, 3/23): Chapter 28 – Sources of Magnetic Field

Week 12 (3/28, **3/30**): Chapter 25 – 28 Review, **Midterm 2**

Week 13 (4/04, 4/06): Chapter 29 – Electromagnetic Induction

Week 14 (4/11, 4/13): Chapter 30 – Inductance

Week 15 (4/18, 4/20): Chapter 31 – Alternating Current

Week 16 (4/25, 4/27): Chapter 32 – Electromagnetic Waves

Week 17 (5/02, 5/04): Chapter 33 – The Nature & Propagation of Light

Week 18 (5/09, 5/11): **Final Exam**

The schedule may be changed by the instructor at any time. It will be announced in the class.