HAWAI'I PACIFIC UNIVERSITY

Modern Physics
PHYS 2054
January 16th – May 6th
Monday, 9:10am – 10:35am
Wednesday, 9:10am – 10:35am
Location, MP 243

Final exam:
May 3rd, 9:10am – 11:25am

Welcome to PHYS 2054 – Modern Physics!

INSTRUCTOR INFORMATION

Instructor: Nathan J. Dawson
Email: ndawson@hpu.edu
Office: AC 311C
Office Phone: 236-7909
Office hours: MW 2:40pm - 4:40pm

COURSE INFORMATION AND REQUIREMENTS

Course meeting times: Tuesday 9:10am – 10:35am
Thursday 9:10am – 10:35am
Couse meeting location: MP 243 (Downtown Campus)
Required Resources: H. D. Young and R. A. Freedman, *University Physics with Modern Physics*, 14th edition
Pearson's Mastering Physics online homework code.

COURSE DESCRIPTION

Course Objectives: This course is intended as an introduction to physical phenomena discovered in the modern scientific era such as wave optics, relativity, quantum mechanics, and particle physics. The main focus of this course is to familiarize students with the reasoning behind physical concepts and their applications. The course shall increase students' ability to apply the basic ideas of algebra and calculus to physical phenomena. The course also helps develop critical thinking skills and scientific reasoning methods through practice by the student.

Prerequisite: PHYS 2052.

Method of Instruction: This is a traditional lecture-style course.

ASSESSMENT, GRADING SCHEME, and COURSE SCHEDULE

Student work: homework will be given in class and assigned a due date. The problems will cover the material presented in the book and/or lecture. Each problem will be graded on a 4.0 scale, where 4.0 = 100%, 3.0 = 85%, 2.0 = 75%, 1.0 = 65%, and a 0.0 = 0%. The homework will be averaged at the end of the course and assigned a linearly interpolated percentage score from the listed scale. In addition to the homework, each student will benefit from reading the book's material as well as answering the questions at the end of each chapter. Since the course material progresses quickly, it will help to read the material before it is presented in class. Working together on the homework is encouraged, but be sure you are able to solve these and similar problems on your own! In addition, questions will be discussed in groups during class.

Examinations: there will be two 80-minute-long, in-class examinations and one final examination. The examinations will consist of general physics problems and conceptual questions. The exam cover will be used to give the student select formula to be referenced during the in-class examinations. It is best to be familiar enough with all of the formulae such that the information on the cover sheet is used only as a reference. All scratch paper may be turned in with the exam.

Homework	20%
In-class exams (23% each)	46%
Final exam	34%

A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Course Schedule: (Examinations are tentatively scheduled)

Item	Description
Chapter 35	Interference
Chapter 36	Diffraction
Chapter 37	Relativity
Chapter 38	Light behaving as particles
Examination 1	**February 20th**
Chapter 39	Particles behaving as waves
Chapter 40	Quantum mechanics
Chapter 41	Atomic structure
Chapter 42	Molecules and condensed matter
Examination 2	**April 5th**
Chapter 43	Nuclear physics
Chapter 44	Particle physics
Final Examination (cumulative)	**May 33rd** 9:10am - 11:25am (MP 243)

INSTRUCTOR POLICIES AND EXPECTATIONS

Attendance and Participation:

- Each student is expected to attend all lectures.
- Each student is expected to read ahead in the book chapter.
- Each student is expected to be ready for the test prior to the exam.

Instructor availability: I will be available in my office after each laboratory. If this is not an option, students are encouraged to visit any of the four office hours and send emails to me using ndawson@hpu.edu. I will check email at least once per day and respond as necessary within 48 hours. If you do not receive a response in this time-frame, please assume that I did not receive the email.

Absences and make-up exam policy: all absences, periods of time when a student is unable to complete course work due to a reason such as illness, military duty, or family emergency, must be coordinated with the instructor. Students should make every effort to notify the instructor **PRIOR** to the absence. But if you cannot, please notify the instructor as soon as possible. This record of absences will be important if an **incomplete** grade and course extension are necessary due to extended absences. If a student has an excused absence on the day of an in-class exam, then a different exam will be given of at least the same level of difficulty as the regularly scheduled exam.

Homework policy: all homework problems must be completed prior to the deadline and submitted on time.

Withdrawal: If you need to make any changes to your registration, including withdrawing from or adding courses, return to your HPU advisor for assistance.

For specific deadlines regarding dropping the course with a withdrawal "W" grade and with no GPA penalty, but possible loss of some or all of the tuition. Pay particular attention to the dates associated with withdrawing from the course. It could determine whether you get any tuition back in the event you need to drop the course.

Incomplete: Students who are unable to complete course requirements due to circumstances beyond their control (e.g. Military duty, illness, natural disaster …) can make a written application to me with documentation for an incomplete "I" grade and complete the course requirements after the end of the course.

Extra Credit: There is no extra credit in this course.

Academic Honesty: All Students are expected to adhere to the University's policies regarding academic honesty. The policy of Hawai'i Pacific University is clear regarding academic dishonesty. Any student, who cheats on an academic exercise, lends assistance to others, or who hands in, as a completed assignment, work that is not his or her own will be penalized. The ultimate penalty is suspension from the University. The term "academic exercise" includes all forms of work submitted for points, grades, or credit.

Academic Honesty Policy:
http://www.hpu.edu/CourseSchedules/docs/FinalExams/Spring_2013_INTEGRITY_POLICY.pdf

TECHNICAL SUPPORT AND TUTORING OPTIONS

HPU's Online Help:
HPU Client Services at (808) 566-2411 or email: helpdesk@hpu.edu for technical assistance.

Campus Tutoring (tutoring@hpu.edu):
The Downtown CAS is located at 1060 Bishop Street (LB building), Floor 6. Tutoring is available in writing, modern languages, and math, accounting, business, science (MABS).

- This location operates on a walk-in, first-come first-served basis.
- Appointments are *only* taken for HPU students that work full-time, are active-duty military, have ADA status, or who want to see a Writing Mentor.

The Hawai'i Loa CAS is located in the Academic Center, 3rd Floor, Educational Technology Center (ETC). Tutoring is offered in select subjects.

- Operates by **appointment only**. Students can make appointments up to two weeks in advance, **ONLY one (1) appointment per subject per day**. For more information and for further assistance, please contact the Tutoring Center (Downtown) at (808) 544-9334.
- NEW!! Book HLC appointments online at:http://www.genbook.com/bookings/slot/reservation/30196648

Contact Information
Email: tutoring@hpu.edu
Phone: (808) 544-9334