

Course Instructor: Prof. Zepeng Li (zepengli@hawaii.edu, WAT-325)
Office hours: 1:00-3:00 pm Thursday, or by appointment

Textbooks: College Physics Volume 2 & 3 (Chaps. 17-30),
11th Edition, by Young and Adams, Pearson

Course Format

Lecture: MWF 12:30-1:20 pm, Physical Science Building, RM217

Course Website

<https://lamaku.hawaii.edu>

PHYS 152 Course Description

Physics 152 continues a two-semester introduction to the fundamentals of physics begun in Physics 151, and will cover electricity, magnetism, optics, special relativity, and atomic & nuclear physics. Lectures and problem-solving will regularly use the mathematical tools of algebra, geometry, trigonometry, and vectors, but not calculus.

Prerequisites

- A grade of "C" or better in PHYS 151
- A grade of "C" or better in MATH 140 (trigonometry & pre-calculus) or MATH 215 or higher; or instead, a passing score on the Mathematics Department's Math Placement Exam (≥ 14 on Part I & ≥ 10 on Part II).

Lab

If you also plan to take PHYS 152L lab, it is strongly recommended that you do so concurrently with the lecture; the lab provides a hands-on way of reinforcing and complementing many of the topics presented in lecture. However, concurrent enrollment in PHYS 152L lab is not a requirement for students in PHYS 152 lecture.

The labs start on September 1st. Information about the labs can be found at:

https://www.sis.hawaii.edu/uhdad/bwckctlg.p_disp_course_detail?cat_term_in=202610&inst_in=MAN&subj_code_in=PHYS&crse_num_in=152L

Learning Outcomes

On completion successful students will be able to:

- a) Demonstrate mastery of problem solving skills in general
- b) Define and use the terminology of electricity, magnetism, light & optics, and modern physics.
- c) Apply the equations and principles of non-calculus-based physics to solve a wide range of problems in electricity, magnetism, light & optics, and modern physics.
- d) Incorporate terminology, equations, and principles from mechanics, waves, fluids, and thermodynamics (PHYS 151) when appropriate.
- e) Recognize how and where these principles occur in natural phenomena, technological and professional applications, and daily life.

Course Format Details

Preparation prior to EACH course session:

- a) Read the relevant sections in the textbook.
- b) Review problems (by doing them by yourself independently) discussed in the previous lecture session.
- c) Review examples in the textbook, for the material covered in the previous lecture.

Homework

Homework will be assigned from the Mastering Physics website (required) for each chapter.

Mastering Physics course code: **li70462**

Access code:

You are strongly encouraged to **first attempt each homework problem YOURSELF, Individually, prior to seeking help online, from a tutor or other students. THIS IS THE BEST WAY TO PREPARE FOR MIDTERMS AND FINAL EXAM.**

Although this is online homework, it is strongly recommended that notes on solving each homework problem are kept in orderly fashion as they represent excellent review material for midterms.

Deadline extended under special circumstances, upon request.

MIDTERMS

Two midterms will be given during the term. If you miss a midterm and have a documented, valid reason for doing so, please notify me by email as soon as possible. You should state in writing why you missed a midterm (the fill-out form below) and email it to me. A single make-up midterm with material covering chapters 17-23 will be given toward the end of the term. In case that no form is received, a score of zero will automatically be assigned for the missed midterm. Midterms are close book exams, and you may bring two pages of A4 sheets of notes, handwritten only.

TENTATIVE MIDTERM SCHEDULE

WEEK	Date/Time	
6	Friday. October 3rd, tentative	During class time
11	Friday. (may change) November 7th, tentative	During class time

FINAL EXAM:

The final exam is comprehensive – it will be based on all the subject material covered in the course. However, the material covered during the second half of the term is given more emphasis. Final exam is close book exam, and you may bring two pages of A4 sheets of notes, handwritten only.

Grading: The final course grade will be based on the following weights.

Midterm 1/Midterm 2	20%/20%
Mastering Physics Homework	25%
Final Exam	35%

Grade assignment guidelines:	A 90-100
	B 80 - 89
	C 70-79
	D 60-69
	F < 60

Minor adjustments to the grading scale are possible and will be applied as needed at the end of the term. Grades like A+, A-, B+, B-, C+, C-, D+, D- will also be assigned. The ranges for these grades will be determined at the end of the term, when the final grades are assigned, but no

big changes are anticipated.

Course calendar:

Note: Minor changes may be made to the Syllabus whenever considered appropriate.

Week - 1

Lectures: Chapter 17

Electric Charge and Electric Field

Week - 2

Lectures: Chapter 17 continued

Electric Charge and Electric Field

Week – 3

Lectures: Chapter 18

Electric Potential and Capacitance

Week – 4

Lectures: Chapter 18 continued

Electric Potential and Capacitance

Week – 5

Lectures: Chapter 19

Current, resistance, and direct-current circuits

Week – 6

Lectures: Chapter 20

Magnetic Field and Magnetic Forces

MIDTERM I: Chapters 17, 18, 19;

(October 3rd, tentative)

Week – 7

Lectures: Chapter 21

Electromagnetic Induction

Week – 8

Lectures: Chapter 22

Alternative Currents

Week – 9

Lectures: Chapter 23

Electromagnetic Waves

Week - 10

Lectures: Chapter 24 & 25
Geometric Optics & Optical Instruments

Week – 11

Lectures: Chapter 26

Interference and Diffraction

**MIDTERM II: Chapters 20, 21, 22, 23;
(November 7th, tentative)**

Week – 12

Lectures: Chapter 27

Relativity

Week – 13

Lectures: Chapter 28

Photons, electrons and atoms

Week – 14

Lectures: Chapter 29

Atoms, molecules and solids

Week – 15

Lectures: Chapter 30

Nuclear and High Energy Physics

Course Technology

This course is delivered in part in Lamaku as a Learning Management system

(<https://www.uhonline.hawaii.edu/discover-d2l-brightspace/>).

Please also be aware that Lamaku

- automatically logs you out *if it does not detect activity for two hours*. A warning message will appear notifying you of the lack of activity. Activity is defined as clicking a button in Lulima such as "Save Draft" or "Next" (in a test), clicking on a course tab, or taking an action that sends information to the server.

Required Hardware and Software

- A more recent model desktop or laptop (2014 or later model), either Windows or Mac is recommended
- Reliable high-speed (Cable or DSL) Internet connection
- A recent version of Internet Browser.
- Zoom conferencing platform
- [Adobe \(Acrobat\) Reader](#). Download is free.

Minimum Technical Skill Requirements

In this course you would be required to utilize the Lulima learning management system to navigate and access course content. You will need to be proficient with basic computer skills such as navigating Internet browsers, and downloading/uploading files.

Technical Support

- [UH ITS Computer Help Desk](#) – email help@hawaii.edu or call 956-8883 (or toll free at 1-800- 558-2669 from the neighbor islands)
- Laulima Assistance Form – Click on the [Request Assistance](#) link at the bottom of any Laulima Page to fill out and submit a question and get your answer via email.
- [Laulima Student Support](#)
- [Information Security for Students](#)

Academic Support

University of Hawai'i Online Learning Academy (all students)

- The [Online Learning Academy](#) (OLA) provides FREE, one-on-one English, math and science tutoring, by highly-qualified college tutors, for the University of Hawai'i (UH) System students statewide. They offer tutoring in the following subjects: basic math, pre-algebra, algebra, geometry, trigonometry, calculus, biology, chemistry, physics, environmental science, writing, and language arts.
- Drop-in hours with Learning Assistants that will provide help with homework problems. Help hours will start in one week and will be announced in class.

UH Mānoa

- [Hamilton Library](#)
- [Distance Learning at UH Mānoa](#)
- [Writing Center](#)
- [Learning Assistance Center](#)

PERMISSION TO TAKE THE MAKE-UP MIDTERM

Name_____

(please print)

Student ID:_____

MIDTERM missed:

MIDTERM-I

MIDTERM-II

(circle one)

Reason for missing the midterm:

By submitting this form, I understand that if I miss the make-up midterm for any reason whatsoever my grade in the missed midterm will be zero.

Signature:_____

University Policies and Procedures

The University of Hawai'i is an equal opportunity/affirmative action institution. It is committed to a policy of nondiscrimination on the basis of race, sex, victims of domestic or sexual violence, gender identity and expression, age, religion, color, national origin, ancestry, citizenship, disability, genetic information, marital status, breastfeeding, income assignment for child support, arrest and court record (except as permissible under State law), sexual orientation, national guard absence, or status as a covered veteran. For additional details, visit the [UH Systemwide Policies and Procedures Information System \(PPIS\)](#) site.

Student Conduct

Review the [UH Systemwide Student Conduct Code](#) for more information. Review the [Online Netiquette and Privacy Tips](#) to prepare yourself when interacting online.

Academic Honesty

Acts of dishonesty, including but not limited to the following:

- Cheating, plagiarism, or other forms of academic dishonesty.

Cheating is an act of academic dishonesty and includes, but is not limited to:

1. use of any unauthorized assistance in taking quizzes, tests, or examinations;
2. use of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
3. the acquisition, without permission, of tests or other academic material belonging to a member of the UH faculty, staff or student body; and
4. engaging in any behavior specifically prohibited by a faculty member in the course syllabus or class discussion.

Plagiarism is also an act of academic dishonesty and includes, but is not limited to:

- the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgement.
- It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Furnishing false information to any UH official, faculty member, or office.

Forgery, alteration, or misuse of any UH document, record, or form of identification.

UH Title IX

- The University of Hawai'i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual

assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking ([UH Title IX](#)). If you or someone you know is experiencing any of these, the University has staff and resources on your campus to support and assist you.

- If you would like to report incidents of sex discrimination or gender based violence, contact your campus [Title IX Coordinator](#) or submit the online [reporting form](#).
- If you wish to remain ANONYMOUS, speak with someone CONFIDENTIALLY, or would like to receive information and support in a CONFIDENTIAL setting, contact your campus' [confidential resource](#).

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. We agree to make academic adjustments to ensure non-discrimination of students with disabilities. This commitment is in accordance with applicable state and federal laws, including the Americans with Disabilities Act, and Sections 504 and 508 of the Rehabilitation Act.

Under the Americans with Disabilities Act (Title II) and the Rehabilitation act of 1973-section 504 and 508, individuals with disabilities have protections against discrimination and are assured access to programs, services and activities. For more information see "Americans with Disabilities Act" and "Rehabilitation Act of 1973 – Section 504 or Section 508".

Students must self-identify to the appropriate Disability Services Office and complete the intake process before receiving reasonable accommodations. To ensure the prompt and effective provision of accommodations, students should contact the Disability Services Office as early as possible. Find your disability services office contact for your home campus.

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

Student Support

- [Academic Advising](#)
- [Bookstore](#)
- [Career Services](#)
- [Counseling Services](#)
- [Registration](#)

Financial Aid Statement

If students do not begin attendance in a course or stop participating in a course, Title IV funds must be returned according to Federal Return of Title IV funds regulations (34 CFR 668.21(a)). This means you may be required to return some (or all) of the financial aid you

have received. It is very important to remember that colleges are required to take steps necessary to ensure that students are academically engaged in order to justify the disbursement of Federal Title IV student aid funds. If at any time your plans change and you no longer plan to participate in the courses in which you enrolled, you must contact the financial aid office to minimize any possible negative financial impact.

For more information on financial assistance for your education, please contact your [home campus financial aid office](#). Financial assistance may include grants, scholarships, and other resources to help you pay for the cost of college. A financial aid adviser will be able to help you navigate this process to determine your eligibility for these funds.