



Welcome to PHYS 2050 – General Physics I!

General Physics I  
PHYS 2050  
August 29<sup>th</sup> – December 16<sup>th</sup>

Section-1X Tues/Thurs, 8:45am – 10:00am  
Location, AC101

Final exam:  
TBD

### INSTRUCTOR INFORMATION

**Instructor:** Nathan J. Dawson

**Email:** [ndawson@hpu.edu](mailto:ndawson@hpu.edu)

**Office:** AC 311A

**Office Phone:** 236-7909

**Office hours:** Tues 10:15am – 11:15am, Thurs 10:15am – 11:15am

### COURSE INFORMATION AND REQUIREMENTS

**Course meeting times:** Tues/Thurs 8:45am – 10:00am

**Course meeting location:** AC101 (Hawaii Loa Campus)

**Required Resources:** H. D. Young and R. A. Freedman, *University Physics with Modern Physics*, 15<sup>th</sup> edition  
Pearson's Mastering Physics online homework code is also required.

### COURSE DESCRIPTION

**Course Objectives:** this course is 3 credits and intended as an introduction to the physical properties of kinematics, forces, energy, momentum, angular motion, fluids, gravitation, harmonic motion, wave motion, and thermodynamics using calculus. The main focus of this course is to familiarize students with the reasoning behind basic physical concepts and their applications. The course shall increase students' ability to apply the basic ideas of algebra and calculus to physical models. The course also helps develop critical thinking skills and scientific reasoning methods through practice by the student.

**Prerequisite:** MATH 2214 to 2325 or MATH 2327 to 2999 or MATH 3000 to 3300 or MATH 3302 to 3999 or MATH 4000 to 4999 or HPUM 2215 to 3215 or TCM 2215 to 3320 or TCM 3330 to 4000.

**Method of Instruction:** This is a class-participation lecture with emphasis on problem solving. Reading is required prior to attendance.

**Learning Outcomes:**

By the end of the course, students should be able to:

- Discuss and describe the physical concepts of basic mechanical systems.
- Communicate scientific hypotheses, models, and theories and their application to the physical world.
- Apply fundamental concepts in physics to analytically solve problems related to mechanical systems.
- Demonstrate competency in manipulating mathematical relationships that describe physical systems.

### ASSESSMENT, GRADING SCHEME, and COURSE SCHEDULE

**Student work:** homework will be given online through Pearson mastering physics. Each student will need to purchase an access code. The course ID is **dawson55303**. The problems will be based on the material presented in the book and/or lecture. In addition to the online homework, each student will benefit from reading the book's material as well as answering the questions at the end of each chapter. The course material progresses quickly throughout the semester and the lecture style requires prior knowledge through prior reading of the assigned

chapter and online lecture notes. Working together on the homework is encouraged but be sure you can solve these and similar problems on your own! In addition, questions will be discussed in groups during class.

**Examinations:** there will be two 75-minute in-class examinations and one 115-minute in-class final examination. The examinations will consist of general physics problems and conceptual questions. All in-class exams will be closed book and closed notes, the exam cover will be used to give the student select formula to be referenced during the exams. It is best to be familiar enough with all formulas such that the information on the cover sheet is used only as a reference. All scratch paper is to be turned in with the exam.

<b>Class participation</b>	10%
<b>Homework</b>	20%
<b>In-class exams (20% each)</b>	40%
<b>Final exam</b>	30%

<b>A</b>	92 – 100%
<b>A–</b>	90 – 91%
<b>B+</b>	87 – 89%
<b>B</b>	82 – 86%
<b>B–</b>	80 – 81%
<b>C+</b>	77 – 79%
<b>C</b>	72 – 76%
<b>C–</b>	70 – 71%
<b>D</b>	60 – 69%
<b>F</b>	0 – 59%

**Course Schedule:** (Examinations are tentatively scheduled)

<b>Item</b>	<b>Description</b>
<b>Chapter 1</b> (week 1)	Units, Physical Quantities, and Vectors
<b>Chapter 2</b> (week 2)	Motion Along a Straight Line
<b>Chapter 3</b> (week 3)	Motion in Two or Three Dimensions
<b>Chapter 4</b> (week 4)	Newton’s Laws of Motion
<b>Chapter 5</b> (week 4)	Applying Newton’s Laws
<b>Chapter 6</b> (week 5)	Work and Kinetic Energy
<b>Chapter 7</b> (week 5)	Potential Energy and Energy Conservation
<b>Review and Exam 1</b> (week 6)	<b>Exam 1 on 10/06</b>
<b>Chapter 8</b> (week 7)	Momentum, Impulse, and Collisions
<b>Chapter 9</b> (week 8)	Rotation of Rigid Bodies
<b>Chapter 10</b> (week 8)	Dynamics of Rotational Motion
<b>Chapter 12</b> (week 9)	Fluid mechanics
<b>Chapter 13</b> (week 9)	Gravitation
<b>Chapter 14</b> (week 10)	Harmonic motion
<b>Review and Exam 1</b> (week 11)	<b>Exam 2 on 11/10</b>
<b>Chapter 15</b> (week 12)	Mechanical waves
<b>Chapter 16</b> (week 13)	Sound and hearing
<b>Chapter 17</b> (week 14)	Temperature and heat (Thanksgiving on Thursday)
<b>Chapter 18</b> (week 15)	Thermal properties of matter (Review on 12/08)
<b>Final Examination</b> (cumulative)	<b>Week of 12/12 – 12/16</b>

## 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 and read through the posted online notes prior to attending the lectures.
- Each student is expected to be ready for the test prior to the exam.

**Instructor availability:** students are encouraged to visit any of my office hours. I will also be available in my office after each laboratory. If none of these times are available to the student, then we can schedule separate meetings. To schedule a meeting please use my HPU email [ndawson@hpu.edu](mailto:ndawson@hpu.edu) and not the blackboard email. I should receive the email and respond within a day; however, if you do not receive a timely response, then please send a follow-up 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 as well as the anticipated duration. If you cannot notify the instructor prior to the absence, 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 Hawaii Time. Unless otherwise noted, all homework assignments are due on the assigned day at 11:59pm HT.

**Mask policy:** Masks are optional. You are not required to wear a mask in this class. Policy subject to change if new recommendations are provided by the Department of Education during the semester.

**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:** One extra credit problem will be available on each exam. Do not assume there to be any other opportunities for extra credit.

**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 during an examination, 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. Please see the Student Handbook for the full policy at [www.hpu.edu/studenthandbook](http://www.hpu.edu/studenthandbook).

## UNIVERSITY POLICY AND SUPPORT

**Bookstore:** Books are available at the HPU Bookstore at the campus where this course is offered (Downtown or Hawaii Loa) and online (all campuses) at [www.hpu.bncollege.com](http://www.hpu.bncollege.com). Rentals and eBooks are available for many of the course materials. You can contact the HPU Bookstore at 808.544.0290 if you have any questions.

**Accessibility Services (ADA Accommodations):** Under the Rehabilitation Act of 1973 (Section 504), the Americans with Disabilities Act Amendments Act 2008 (ADAAA), and Title III (Public Accommodations) Hawai'i Pacific University does not discriminate against individuals with disabilities. Any student who feels he/she may need an accommodation based on the impact of a disability is invited to contact Accessibility Services at HPU (808-544-1197); by email at [access@hpu.edu](mailto:access@hpu.edu), or at Waterfront Plaza, Tower 6, Suite 440, 500 Ala Moana Blvd. This is a necessary step in order to ensure reasonable accommodations in a course. Students are not expected to disclose their specific disability to the professor; Accessibility Services will provide a letter for an instructor explaining the accommodations and NOT the nature of the disability. If you would like to discuss other concerns, such as medical emergencies or arrangements in the event of an emergency evacuation, please make an appointment to talk with Accessibility Services as soon as possible.

**Counseling & Behavioral Health Services (CBHS):** CBHS provides current HPU students with free and confidential psychological counseling. Sometimes the stress of school along with personal issues can be too much to handle. CBHS provides the opportunity for students to discuss any personal problems or concerns and explore solutions. Appointments can be scheduled by phone at 808-687-7076 or in person at the Downtown campus at WP6-402. Office hours are Monday–Friday, 8:00 a.m. to 5:00 p.m.

**HPU Libraries & Learning Commons:** HPU Libraries provides services and resources to serve the research needs of the HPU community. Print books, periodicals, and audiovisual materials are available at the Library at Waterfront (WP6-302) and at Atherton Library at the Hawai'i Loa Campus. Online resources, such as articles, eBooks, and streaming videos, are available from the library's homepage at [hpu.edu/libraries](http://hpu.edu/libraries). Off-campus access to online content will prompt users to input their MyHPU credentials. Students can stop by the reference desk at any library location for research assistance. Librarians are also available over the phone (808.544.1133), via email ([reference@hpu.edu](mailto:reference@hpu.edu)), and through the Libraries' 24/7/365 online chat service ([hpu.on.worldcat.org/chat/librarian](http://hpu.on.worldcat.org/chat/librarian)). To schedule a research consultation with a subject specialist, visit [hpu.libcal.com/appointments](http://hpu.libcal.com/appointments).

**Military Veteran Center (MVC):** MVC has one part-time mental health provider from the Veterans Administration who offers confidential psychological counseling to military veterans. Sometimes, the transition from military to civilian life, managing school, and other personal issues can be challenging. MVC has an onsite provider at the downtown campus (PL 200) and appointments can be scheduled by phone at 808-763-7470. Office hours are Monday–Thursday, 8:00 a.m. to 5:00 p.m.

**Security and Safety:** Help keep our campus safe and secure. For emergency situations, call 911; for non-emergencies, contact HPU security (808-544-1400). Timely reports of observations to security and the police can go a long way in preventing future crimes. Also, HPU security provides transportation or a walking escort at the Hawaii Loa campus, and a walking escort on the Downtown campus for anyone walking alone on foot to any university parking lot, facility or city bus stop. Call 808-236-3515 (Hawaii Loa) and 808-544-1400 (Downtown)--a security officer will be sent to your location. To receive critical information via text messaging, update your mobile number with Rave Alert <http://phone.hpu.edu>, HPU's emergency text program. Go to HPU Security for more about campus security and emergency preparedness.

**Title IX - Sexual Discrimination and Sexual Misconduct Policy:** HPU is committed to providing an educational environment free from sexual discrimination. Students, faculty and staff must report violations of sexual harassment, sexual assaults, stalking, domestic violence, dating violence, and other forms of sex discrimination to prompt support services and a resolution through informal or formal complaint procedures. Support services include assistance with filing reports, referrals to counseling and medical providers, assignment of a victim or respondent advisor, modifications of work or class schedules, changes in work or on-campus housing locations, and assistance with academic accommodations. Faculty and students who become aware of such violations should contact the Title IX Coordinator (808-687-7014), file an online report using the “Report Sexual or Relationship Violence” button located at [www.hpu.edu/titleix](http://www.hpu.edu/titleix) or the Compliance Hotline (877-270-5054 or [www.tnwinc.com/hpu](http://www.tnwinc.com/hpu)). More details can be found at [studenthandbook.hpu.edu](http://studenthandbook.hpu.edu) or [www.hpu.edu/titleix](http://www.hpu.edu/titleix).