Undergraduate Course Syllabus

PHY 150: Introductory Physics: Mechanics

Center: Online

Course Prerequisites

MAT 140: Pre-calculus

Course Description

In this algebra-based physics course, students will explore the major fundamental topics in physics as they relate to mechanics, such as motion and forces, gravity and projectiles, and energy and work. Through their exploration of these topics and embedded lab work, students will learn to describe the motion of objects in both one and two dimensions, and to solve problems through the application of Newton's laws of motion. Additionally, they will also apply the principles of the conservation of energy and momentum to analyze the behavior of interacting objects.

Course Competencies

This course covers the following competencies, which represent the knowledge and skills relevant to your field:

- PHY-20656: Describe the motion of an object in one and two dimensions
- PHY-20657: Apply Newton's laws of motion to solve problems
- PHY-20658: Apply principles of conservation of energy and momentum to analyze the behavior of interacting objects

Required Materials

This course uses WebAssign as a digital learning resource, which contains problem sets related to your readings that will be completed for a grade. Access to WebAssign can be purchased through the SNHU Online Bookstore. Once you purchase an access code, please follow the registration instructions in your course to gain access.

SNHU Custom Physics Lab Kit (from Carolina Biological)

Using your learning resources is critical to your success in this course. Please purchase directly through the SNHU Online Bookstore rather than any other vendor. Purchasing directly from the bookstore ensures that you will obtain the correct materials and that the IT Service Desk, your advisor, and the instructor can provide you with support if you have problems.

Diversity, Equity, and Inclusion

As indicated in our core values, SNHU is committed to "embrace diversity where we encourage and respect diverse identities, ideas, and perspectives by honoring difference, amplifying belonging, engaging civilly, and breaking down barriers to bring our mission to life."

This may or will be reflected in SNHU's curriculum as we embrace and practice diversity, equity, and inclusion (DEI) to provide the most transformative experience for our students, faculty, and staff. Because topics pertaining to DEI can be sensitive, please remember that embodying and practicing diversity, equity, and inclusion is one of our core values that you will encounter throughout the academic experience. In higher education, we are expected to think and engage critically. Use a growth mindset to embrace the diverse readings, course assignments, and experiences of your peers and faculty.

For more information about DEI at SNHU, please visit our website at the Office of Diversity and Inclusion.

Instructor Availability and Response Time

Your class interaction with the instructor and your classmates will take place on a regular, ongoing basis. Your instructor will be actively engaged within the course throughout the week. You will normally communicate with your instructor in the weekly discussions or the General Questions discussion topic so that your questions and the instructor's answers benefit the entire class. You should feel free, however, to communicate with your instructor via SNHU email at any time, particularly when you want to discuss something of a personal or sensitive nature. Your instructor will generally provide a response within 24 hours. Instructors will post grades and feedback (as applicable) within seven days of an assignment's due date, or within seven days of a late submission.

Grade Distribution

Assignment Category	Number of Graded Items	Point Value per Item	Total Points
Discussion Boards	3	50	150
Labs	3	80	240
Homework	7	40	280
Project 1: Objects in Motion	1	100	100
Project 2: Newton's Laws	1	100	100
Project 3: Energy and Momentum	1	100	100
Reflection	1	30	30
			Total Course Points: 1,000

This course may also contain practice activities. The purpose of these non-graded activities is to assist you in mastering the learning outcomes in the graded activity items listed above.

University Grading System: Undergraduate

Grade	Numerical Equivalent	Points
A	93–100	4
A-	90–92	3.67
B+	87–89	3.33
B	83–86	3
B-	80–82	2.67
C+	77–79	2.33
C	73–76	2

Grade	Numerical Equivalent	Points
C-	70–72	1.67
D+	67–69	1.33
D	60–66	1
F	0–59	0
I	Incomplete	
IF	Incomplete/Failure *	
IP	In Progress (past end of term)	
W	Withdrawn	

* Please refer to the policy page for information on the incomplete grade process.

Grading Guides

Specific activity directions, grading guides, posting requirements, and additional deadlines can be found in the Assignment Guidelines and Rubrics section of the course.

Weekly Assignment Schedule

All reading and assignment information can be found within each module of the course. Assignments and discussion posts during the first week of each term are due by 11:59 p.m. Eastern Time. Assignments and discussion posts for the remainder of the term are due by 11:59 p.m. of the student's local time zone.

In addition to the textbook readings that are listed, there may be additional required resources within each module.

Module	Topics and Assignments
1	Reading: *College Physics,* Chapter 1: Sections 1.1–1.3, Chapter 2: Sections 2.1–2.4 1-1 Discussion: Differences Between Speed, Velocity, and Acceleration 1-2 Homework 1-3 Review Your Projects
2	Reading: *College Physics*, Chapter 2: Sections 2.5–2.8, Chapter 3 2-1 Lab: Kinematics 2-2 Homework 2-3 Reviews/Reminders
3	Reading: *College Physics*, Chapter 4 3-1 Homework 3-2 Project One: Objects in Motion
4	Reading: *College Physics*, Chapter 5: Sections 5.1–5.2, Chapter 6: Sections 6.1–6.4 4-1 Discussion: Newton's Third Law 4-2 Lab: Newton's Laws 4-3 Homework 4-4 Reviews/Reminders
5	Reading: *College Physics*, Chapter 7: Sections 7.1–7.3 5-1 Homework 5-2 Project Two: Newton's Laws

Module	Topics and Assignments
6	Reading: *College Physics*, Chapter 7: Sections 7.4–7.9 6-1 Discussion: Conservation of Energy 6-2 Homework 6-3 Reviews/Reminders
7	Reading: *College Physics*, Chapter 8 7-1 Lab: Momentum 7-2 Project Three: Energy and Momentum
8	8-1 Short Reflection Paper: Perception of Physics 8-2 Homework

Attendance Policy

Online students are required to submit a graded assignment/discussion during the first week of class. If a student does not submit a graded assignment/discussion during the first week of class, the student is automatically dropped from the course for non-participation. Review the full attendance policy.

Late Assignments Policy

Meeting assigned due dates is critical for demonstrating progress and ensuring appropriate time for instructor feedback on assignments. Students are expected to submit their assignments on or before the due date. Review the full late assignment policy.

SNHU Student Handbook

Review the student handbook.

ADA/504 Compliance Statement

Southern New Hampshire University (SNHU) is dedicated to providing equal access to individuals with disabilities in accordance with Section 504 of the Rehabilitation Act of 1973 and with Title III of the Americans with Disabilities Act (ADA) of 1990, as amended by the Americans with Disabilities Act Amendments Act (ADAAA) of 2008.

SNHU prohibits unlawful discrimination on the basis of disability and takes action to prevent such discrimination by providing reasonable accommodations to eligible individuals with disabilities. The university has adopted this policy to provide for prompt and equitable resolution of complaints regarding any action prohibited by Section 504, the ADA, or the ADAAA.

For questions about **support services, documentation guidelines, general disability issues, or pregnancy accommodations**, please visit the Online Accessibility Center (OAC).

As a student, you must complete an interactive intake process, with supporting documentation, in order to be granted accommodations. Once reasonable accommodations are approved by the OAC, you will receive an accommodations letter. You are then responsible for sharing the letter with your instructor. Accommodations are not retroactive.

If you feel you've been subject to discrimination on the basis of disability, by any party, you may file a complaint or grievance. For more information on the ADA/504 Grievance Policy, go to the Disability and Accessibility Services website.

Academic Integrity Policy

Southern New Hampshire University requires all students to adhere to high standards of integrity in their academic work. Activities such as plagiarism and cheating are not condoned by the university. Review the full academic integrity policy.

Copyright Policy

Southern New Hampshire University abides by the provisions of United States Copyright Act (Title 17 of the United States Code). Any person who infringes the copyright law is liable. Review the full copyright policy.

SNHU Withdrawal Policy

Review the full withdrawal policy.

Southern New Hampshire University Policies

More information about SNHU policies can be found on the policy page.