

Phyc1190
Introduction to Physics
Faculty of Science, Department of Physics and Atmospheric Science
Fall 2026

Dalhousie University operates in the unceded territories of the Mi'kmaw, Wolastoqey, and Peskotomuhkati Peoples. These sovereign nations hold inherent rights as the original peoples of these lands, and we each carry collective obligations under the Peace and Friendship Treaties. Section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights in Canada.

We recognize that African Nova Scotians are a distinct people whose histories, legacies, and contributions have enriched that part of Mi'kma'ki known as Nova Scotia for over 400 years.

Table of Contents

<i>Course Information.....</i>	<i>2</i>
<i>Instructor Information.....</i>	<i>4</i>
<i>Course Resources & Tools</i>	<i>4</i>
<i>Course Assessments.....</i>	<i>5</i>
<i>Tentative Course Schedule</i>	<i>9</i>
<i>Syllabus Appendix: Student Supports & University Statements, Policies, and Guidelines.....</i>	<i>10</i>



Course Information

Course Description: This course concentrates on mechanics (forces and motion). Primarily for students interested in Physical Sciences and Engineering. Students entering this course must be familiar with algebra, graphs, and trigonometry, and should be taking calculus (MATH 1000.03/1010.03 or MATH 1280.03/1290.03) concurrently. Ideas are introduced through in-class demonstrations enabling students to relate physical theory to events in the real world. Students explore many concepts via hands-on labs.

Prerequisites/Corequisites/Exclusions/Restrictions: High School Physics equivalent to the Nova Scotia 12 level. Students not having a physics credit equivalent to Nova Scotia Grade 12 Physics are strongly advised to take PHYC 0010.00 available in the summer and in the fall term. See the College of Continuing Education at: <http://collegeofcontinuinged.dal.ca>

Course Exclusion: Credit will be given for only one of 1190.03, 1280.03, or 1310.03.

Definitions for [Learning Modality](#) (below).



Credit Value:
3 credit hours



Learning Modality: In-person



Format: Lectures and lab

Time: Lectures Monday, Wednesday, and Friday.
8:35-9:25 (section 01 or 03)
9:35-10:25 (section 02 or 04)
10:35-11:25 (section 05 or 06)

Location:

Lectures - Dunn 117

Labs - Dunn 114

Lab Schedule:

Lab schedule found on Brightspace, or in your lab manual.



Course Learning Outcomes:

- Identify forces, draw a free body diagram, identify the net force, use Newton's 2nd law to solve for the acceleration of an object.
- Describe the motion of an object moving under the effect of a uniform force.
- Describe the motion of an object traveling in a circular path and identify the forces that allow this motion.
- Analyze forces in a system of ropes and pulleys.
- Use momentum to describe the motion of one or more objects.
- Use kinetic and potential energy to study objects in motion, in particular systems that cannot be easily studied using other means.
- Describe how work relates to energy and use this to describe the motion of an object moving under the effect of a non-uniform force.
- Find the net torque on a body subject to multiple forces.
- Use principles of static equilibrium to analyze a structure at rest.
- Analyze, in detail, the stability of a bridge or other static structure using the Method of Joints and the Method of Sections
- Use the moment of inertia to describe rotational motion.
- Identify the forces acting on a fluid at rest and use this to calculate pressure and buoyancy.



Instructor Information



Primary Instructor: Dr. Simon de Vet

Email: phyc1190@dal.ca

Office: Dunn 121A

Student Drop-in Hours: Tuesday, 1:00-2:30, Dunn 121A



10:35 lecture instructor: Dr. Laurent Kreplak

Email: kreplak@dal.ca

Office: Dunn 228

Student Drop-in Hours: Thursday, 3:00-4:30, Dunn 228

Communications

For effective email communications, use your Dalhousie email address and include the course code in the subject line.

Course Resources & Tools

To successfully complete this course, you should have access to a computer with a reliable internet connection and Microsoft Office for Windows/Mac.

In addition, you will need the following resources and tools:

Resource/Tool	Required	Optional	Cost	How to Purchase/Access
OpenStax University Physics	☐	✓	n/a	https://openstax.org/details/books/university-physics-volume-1
Lab Manual	✓	☐	\$10	Available from bookstore

Brightspace Course Site

Only students registered in the course are permitted to view, download, upload, comment, or otherwise participate in the course site. **You do not have permission to upload course materials to external/third-party websites.**

While you may be able to access the course from your phone, a desktop computer or laptop is recommended. **Brightspace functions best when using Google Chrome.**

If you need assistance with Brightspace or other online learning technologies, submit an online ticket at <https://service.portal.dal.ca> or call 902-494-4357 (toll-free 1-800-869-3931).



Course Assessments

The following table outlines the assessments in this course. Refer to Brightspace for assessment expectations, requirements, and rubrics.

This course has two marking schemes. We calculate grades using both schemes, and students will automatically receive the higher grade.

Scheme A		Scheme B	
Labs	20%	Labs	20%
Self-Assessments	5%	Self-Assessments	5%
Test 1	15%	Best Test	18%
Test 2	15%	Middle Test	18%
Test 3	15%	Worst Test	0%
Final Exam	30%	Final Exam	39%

Assignments

Students are expected to complete "Self-Assessment" (SA) quizzes. These are generally conceptual problems, or simple calculations. Students have unlimited attempts to get the right answer. The purpose of these quizzes is to help students gauge their understanding of the material, to better know what material they need to review. It is not a test.

Labs

There are six labs in total, completed during your scheduled lab time. Labs do not take more than the scheduled three hours.

See lab manual or Brightspace for detailed lab schedule. Students do not have lab every week.

Tests/quizzes

Test 1	October 5 (In class)
Test 2	October 26 (In class)
Test 3	November 23 (In class)
Final Exam	Exam period (to be scheduled by registrar)



If an assessment may result in a barrier or does not align with your formal academic accommodations, reach out to me to collaboratively find a solution that meets your needs.

Course grades reflect your demonstrated achievement in meeting the course learning outcomes. Numerical grades will be converted to final letter grades following Dalhousie's undergraduate grade scale. This scale also indicates the passing course grade and GPA values that correspond with each letter grade. Refer to the [Grading Practices Policy](#) for more information.

Conversion of numerical grades to final letter grades follows the

Dalhousie Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (0-49)
A- (80-84)	B- (70-72)	C- (55-59)	

Use of Generative AI (Copilot Chat): According to [Dalhousie and Nova Scotia privacy laws](#), **instructors are not permitted to require students to use generative AI other than Microsoft 365 Copilot Chat**, which is a free AI-powered tool included with all Dalhousie accounts. The following table outlines for which purposes and tasks you are required, allowed, and prohibited to use generative AI (Copilot Chat) in this course. If generative AI is used in cases where it is not permitted, it will be considered an academic integrity offence, and you will be subject to appropriate [disciplinary and/or corrective measures](#).

Required Purposes/Tasks	Allowed Purposes/Tasks	Prohibited Purposes/Tasks
None	Study aid / virtual tutor	Any assessed work (homework, tests, labs)



Accessibility: Refer to the Student Accommodation Policy for information on how Dalhousie instructors and staff work collaboratively with students to create and sustain an accessible educational environment.

- **If there are aspects of this course, including but not limited to its design, teaching approaches, learning activities, and assessments, that result in barriers to your learning or do not align with your formal academic accommodations, reach out to me to collaboratively find a solution that meets your needs.**
- You are eligible for accommodations based on protected characteristics such as religion. If you have religious, cultural, or community-significant observances that conflict with course requirements, reach out to me to collaboratively find alternatives for completing the course requirements.
- To begin the process of requesting a formal academic accommodation, contact the Student Accessibility Centre (or the Student Success Centre for Faculty of Agriculture courses).
- Your classroom may contain accessible furniture and equipment. It is important that these items remain in the classroom, undisturbed and unused, so that classmates who require their use will be able to fully participate in the course.

Academic Integrity: Dalhousie expects all students to be responsible learners, demonstrating the values of intellectual honesty, trust, fairness, and respect in your work. Key aspects of academic integrity include, but are not limited to: avoiding plagiarism, not engaging in cheating, submitting original work, and acknowledging sources of information and ideas when they are not your own. Refer to the Statement on Intellectual Honesty for definitions of various academic offences. Failure to meet Dalhousie's academic integrity standards will result in appropriate disciplinary and/or corrective measures.



Missed and Late Assessments:

Tests: Marking “Scheme B” drops the lowest test, so a student can miss one test with no penalty. Students do not need to provide an excuse for a missed test. There are no make-up tests. This policy exists for situations where missing a test is unavoidable. You should plan to attend all the tests.

Exam: If a student misses the final exam, they must immediately contact the instructor and provide documentation. It will be possible to write a make-up exam if the exam is missed for a valid reason. A grade of F will be given if a student misses the make-up exam or misses the final exam without a valid explanation.

Homework (Self-Assessments): All homework assignments are due at 11:59pm on Fridays. Extensions will not be given in most circumstances. We drop the lowest 10% of individual homework questions when calculating the homework grade, so a student can miss up to 10% of their work without any penalty.

Labs: If a student cannot attend their scheduled lab, they must contact their instructor right away to reschedule. A student must attend their assigned lab section, unless given permission otherwise. We drop the lowest lab when calculating the final lab grade, so a student can miss one lab at no penalty. There are no make-up labs.

Assignment Regrades:

All tests are graded by humans. While we try to be as accurate as possible, mistakes can occur. If you believe that a test has been graded incorrectly, there will be a procedure for requesting a regrade. This procedure will be described in class. Any regrade request must be made within one week of the return of the test.

There are no regades possible for homework (graded by computer) or labs (completed in person).



Tentative Course Schedule

Refer to [Dalhousie's Important Dates](#) for holidays and academic dates such as course add, drop, and withdrawal dates.

Week	Date	Lecture	Lecture material	Homework deadlines
1	September 9	1	Introduction, vectors	
	September 11	2	Motion in 1D	
2	September 14	3	Forces and Newton's 2 nd Law	
	September 16	4	Tension and ropes	
	September 18	5	Friction	SA 1 due
3	September 21	6	Motion in 2D or 3D	
	September 23	7	Projectile motion	
	September 25	8	Uniform circular motion	SA 2 due
4	September 28	9	Non-uniform circular motion	
	September 30	Truth and Reconciliation Day		
	October 2	10	Static pulleys	SA 3 due
5	October 5	TEST 1		
	October 7	11	Moving pulley systems	
	October 9	12	Center of mass	SA 4 due
6	October 12	Thanksgiving		
	October 14	13	Conservation of Momentum	
	October 16	14	Conservation of Energy	SA 5 due
7	October 19	15	Collisions	
	October 21	16	Work and Energy	
	October 23	17	Constant force, curved path	SA 6 due
8	October 26	TEST 2		
	October 28	18	Variable forces and springs	
	October 30	19	Adding PE and Energy diagrams	SA 7 due
9	November 2	20	Simple Harmonic Motion, spring	
	November 4	21	Simple Harmonic Motion, pendulum	
	November 6	22	Torque	SA 8 due
	November 9-13	READING WEEK		
10	November 16	23	Static Equilibrium	
	November 18	24	Structural analysis	
	November 20	25	Method of Joints	SA 9 due
11	November 23	TEST 3		
	November 25	26	Method of Sections	
	November 27	27	KE of Rotation, moment of inertia	SA 10 due
12	November 30	28	Rolling motion	
	December 2	29	Newton's 2 nd Law of rotation	
	December 4	30	Angular momentum	SA 11 due
13	December 7	31	Static fluids and pressure	
	December 9	32	Buoyancy	SA 12 due



Syllabus Appendix: Student Supports & University Statements, Policies, and Guidelines

Select the link above for student supports available to all Dalhousie students, and University-wide statements, policies, and guidelines applicable to your academic studies.