PHYSICS 1020: INTRODUCTORY PHYSICS I – WINTER 2025

INSTRUCTOR: Dr. T. Andrews **CONTACT:** Office: C-1063, E-mail: **Only via course website**

OFFICE HOURS: Tuesday, Thursday 1:00 – 2:00 PM

LECTURES: Mon, Wed, Fri, 3:00-3:50 PM **LABORATORIES: Section 002:** Mon 9:00-10:50 AM, **Section 003:** Tue 9:00-10:50 AM

PREREQUISITES: Level III Advanced Mathematics or Mathematics 1090 or 109A, Science 1807 and Science 1808. It is recommended that students have completed at least one of Level II and Level III High School Physics courses.

COREQUISITES: Mathematics 1090 or 109A

DESCRIPTION: Physics 1020: Introductory Physics I is an algebra-based introduction to Newtonian mechanics. Topics covered include motion in one and two dimensions, Newton's laws, momentum, energy and work, and rotational motion. Previous exposure to physics would be an asset but is not essential.

WEBSITE: The course website will be your main source of course information. Check often for announcements and other course information. **Access:** my.mun.ca → Students → Course Login → PHYS-1020-001 Introductory Physics I.

TEXT: E-text: Physics, 5th Edition, by James S. Walker (with Mastering Physics access code). **Purchase at the University Bookstore**.

TOPIC	TEXTBOOK	
	CHAPTER	SECTIONS
Introduction to Physics	1	1-8
One-Dimensional Kinematics	2	1-7
Vectors – Introduction and Common Physics Vectors	3	1-6
Two-Dimensional Kinematics	4	1-5
Newton's Laws – Introduction	5	1-7
Newton's Laws – Applications	6	1-5
Work and Kinetic Energy	7	1-4
Potential Energy and Conservation of Mechanical Energy	8	1-5
Linear Momentum – Introduction and Conservation	9	1-8
Rotational Kinematics and Energy	10	1-6
Rotational Dynamics and Static Equilibrium	11	1-4
Gravity (if time permits)	12	1-2

EVALUATION SCHEME: The evaluation scheme to be used in this course and helpful related information is provided below.

COURSE COMPONENT	WEIGHT	NOTES
Assignments	10%	• Approximately 1 per chapter. • Complete using the online Mastering Physics assignment system. Access from course website via the **Access Pearson** link under **Course Content** tab. You will need the access code that comes with your e-textbook.
Laboratories	15%	• **A grade of 50% or greater in the laboratory component is required to pass the course**. • Instructor: Edward Hayden (ehayden@mun.ca). **Contact for all laboratory-related inquiries**. • Held in room C-2038 in the Chemistry-Physics Building • A laboratory notebook is **not** required. • The laboratory component will **not** be waived for students repeating the course.
Problem Sessions	6%	• Held during your regularly scheduled laboratory period in the laboratory (C-2038). • Notify laboratory instructor in writing within 48 hours of absence.
Term Tests	29%	• Two tests (each worth 14.5%) **scheduled for February 7th and March 14th.** • **TESTS MUST BE WRITTEN AT THE ASSIGNED TIMES. Rescheduling will not be permitted.** • **NO MAKE-UP TESTS WILL BE GIVEN.**
Final Examination	40%	• Comprehensive test of course material. • Written during the examination period at the end of the semester. • A supplementary examination is **not** available in this course.

MISSED WORK: Students who cannot complete assignments or term tests need to consult the University Calendar, Section 6.7.5 Exemptions from Parts of the Evaluation, and speak to the instructor as soon as possible.

If a student cannot, for good cause, write a term test, then the weight for the missed term test will be added to the final examination weight. No make-up tests will be given.

If a student cannot, for good cause, write the final examination and wishes to apply to write a deferred examination, the student must do so within 48 hours by e-mail to the Head, Department of Physics & Physical Oceanography through: physicsAPO@mun.ca.

USE OF RECORDING DEVICES IN CLASSROOMS: The lectures, displays, and all other material delivered or provided in this course, including any visual or audio recording thereof, are subject to copyright owned by Dr. T. Andrews. It is prohibited to record or copy by any means, in any format, openly or surreptitiously, in whole or in part, in the absence of express written permission from Dr. T. Andrews, any of the lectures or materials provided or published in any form during or from the course.

IMPORTANT GENERAL INFORMATION FROM THE UNIVERSITY

Accommodation of Students with Disabilities: Memorial University is committed to fostering equitable and accessible learning environments for all students. Students who feel that they may require formal academic accommodations to address barriers or challenges they are experiencing related to their learning are encouraged to contact Accessibility Services (the Blundon Centre, blundon@mun.ca) at the earliest opportunity to ensure any required academic accommodations are provided in a timely manner. See "Accommodations for Students with Disabilities Policy" (www.mun.ca/policy/site/policy.php?id=239) for further information on provision of accommodations.

Academic Integrity: Students are expected to adhere to those principles which constitute proper academic conduct. A student has the responsibility to know which actions, as described under Academic Offences in the University Regulations, could be construed as dishonest or improper. Students found guilty of an academic offence may be subject to a number of penalties commensurate with the offence including reprimand, reduction of grade, probation, suspension or expulsion from the University. See "University Regulations for Academic Misconduct" (Section 6.12) in the University Calendar for more information.

Use of Assistive Tools: The use of a generative artificial intelligence tool (*e.g.*, ChatGPT) is **not** permitted during tests or examinations.

Physics 1020 - Winter 2025

Monday	Tuesday	Wednesday	Thursday	Friday
06/01/2025	Jan/7 Lectures Begin	Jan/8	Jan/9	Jan/10
Jan/13 Lab Introduction	Jan/14 Lab Introduction	Jan/15	Jan/16	Jan/17
Jan/20 Experiment 1 Intro. to Measurement	Jan/21 Experiment 1 Intro. to Measurement	Jan/22	Jan/23	Jan/24
Jan/27 Experiment 2 Falling Objects	Jan/28 Experiment 2 Falling Objects	Jan/29	Jan/30	Jan/31
Feb/3 Problem Set 1	Feb/4 Problem Set 1	Feb/5	Feb/6	Feb/7 **Midterm Exam 1**
Feb/10 Experiment 3 Newton's 2nd Law	Feb/11 Experiment 3 Newton's 2nd Law	Feb/12	Feb/13	Feb/14
Feb/17 Experiment 4 Force and Acceleration	Feb/18 Experiment 4 Force and Acceleration	Feb/19	Feb/20	Feb/21
Feb/24 Break	Feb/25 Break	Feb/26 Break	Feb/27 Break	Feb/28 Break
Mar/3 Experiment 5 Energy	Mar/4 Experiment 5 Energy	Mar/5	Mar/6	Mar/7
Mar/10 Problem Set 2	Mar/11 Problem Set 2	Mar/12	Mar/13	Mar/14 **Midterm Exam 2**
Mar/17 Experiment 6 Momentum	Mar/18 Experiment 6 Momentum	Mar/19	Mar/20	Mar/21
Mar/24 Make-Up Missed Experiments	Mar/25 Make-Up Missed Experiments	Mar/26	Mar/27	Mar/28
Mar/31 Problem Set 3	Apr/1 Problem Set 3	Apr/2	Apr/3	Apr/4
Apr/7 Free Period (No Labs)	Apr/8 Free Period (No Labs)	Apr/9 Lectures End	Apr/10	Apr/11
Apr/14	Apr/15	Apr/16	Apr/17	Apr/18 Good Friday

Dec/23 16:2