

COURSE NO: PHYS 1050 TITLE: Physics 1: Mechanics

Web Site: <http://www2.physics.umanitoba.ca/u/undergraduate/phys105/index.html>

LECTURES

A01 Dr. C.-M. Hu Tel: 474-6189	MWF 9:30 a.m. office: 332 Allen Bldg email: Hu@physics.umanitoba.ca	Tier 206 Consultation Times: 10:30 – 11:30 am (MW)
A02 Dr. J. van Lierop Tel: 474-6191	MWF 9:30 a.m. office: 322 Allen Bldg email: johan.van.lierop@umanitoba.ca	Wallace 221 Consultation Times: 10:30 – 11:30 am (WF)
A03 Dr. C.-M. Hu Tel: 474-6189	MWF 1:30 p.m. office: 332 Allen Bldg email: Hu@physics.umanitoba.ca	ARMES 204 Consultation Times: 2:30 – 3:30 pm (MW)

LABS/TUTORIALS Room 403-405Allen

The first laboratory in PHYS1050 is during the week of September 9, 2019. Students **must** attend the lab in the slot chosen at registration time. The first session will be held in Room 403, from where you will be assigned to a specific laboratory room for the rest of the term.

All students should bring the following to the first laboratory session: the PHYS 1050 Laboratory Manual.

The schedule of laboratory activities is provided on page 4 of this document. Dr. Ruth Cameron (217 Allen, ruth.cameron@umanitoba.ca) and Andriy Yamchuk (401 Allen, Andriy.Yamchuk@umanitoba.ca) will be co-ordinating the laboratory sections. The lab sections and slots are:

B01	Monday	2:30-5:30 p.m.
B02	Tuesday	8:30-11:30 a.m.
B03	Tuesday	2:30-5:30 p.m.
B04	Wednesday	2:30-5:30 p.m.
B05	Thursday	2:30-5:30 p.m.
B06	Thursday	8:30-11:30 a.m.

RESEARCH LAB TOURS

A lab tour (voluntary) may be arranged in November, to show how frontier research is performed at the research labs in the Department of Physics and Astronomy, and how that is related to this course.

TEXTBOOKS & MATERIALS

Halliday, Resnick, and Walker, *Fundamentals of Physics*, 11th edition (Wiley). **(required)**

PHYS 1050 Laboratory Manual 2019-2020, available in bookstore. **(required)**

iClicker – This system may be used to enhance classroom problem solving and discussions. **(optional)**

EVALUATION PROCEDURE:

* Laboratory reports (5)	20%
* Tutorial tests (3)	9%
Mechanics Survey (pre-test and post-test)	1%
Term test	20%
Final exam	50%
Total	100%

The schedule of lab reports, tutorial tests, midterm and final exam are detailed in the attached schedule table. The marks of the lab reports, tutorial tests, midterm and final exam will be posted online within one week of the scheduled labs, tests and exams. A sufficient percentage of the total mark including at least 3 lab reports, 2 tutorial tests and the midtem test will be provided to the students before the Voluntary Withdrawal deadline. The final grades will be posted on the course website and submitted to Aurora by the grade submission deadline.

NOTE: Students having taken PHYS 1050 within the last 2 years MAY APPLY for an exemption from the laboratory component of the course in 2019-20, provided that their performance in the laboratory exceeded a minimum standard of 80% averaged over 5 labs. To apply for an exemption, students MUST contact the Physics office (301 Allen Bldg.) in person on or before September 18, 2019. Students who receive an exemption will have their previous laboratory mark credited directly towards the 2019-20 mark for PHYS 1050, as outlined above.

***Note that an important component of the course mark is based on tutorial tests, which are conducted in the laboratory sessions. Students who obtain a lab exemption are still required to write the tutorial tests in the time tabled slot. See the attached schedule for dates of tutorial tests.**

The preliminary low-numerical-boundaries for the letter grades:

A+	90%
A	80%
B+	75%
B	66%
C+	60%
C	50%
D	45%
F	Below 45%

Note that the final numerical boundary for each letter grade may be slightly adjusted depending on the total mark distribution of the class. But no student's final grade will be reduced due to the boundary adjustment.

SCHEDULE OF TERM WORK AND TESTS:

Three tutorial tests	(see attached schedule)
Five laboratory reports	(see attached schedule)
Midterm test	Thursday, October 17, 2019, 6:00 – 8:00 p.m.
Final exam	December, to be scheduled by Student Records

POLICY ON MISSED TESTS/TUTORIALS

No rewrites are given for the mid-term test. If you miss the mid-term test for a legitimate, documented reason, then the weight of the final exam will be increased to 70%. If you cannot attend a tutorial due to illness or some other **legitimate** reason, then you **may** be given permission to write the tutorial test in a different section during the same week. **Missed tests for any other reason count as zero!** Consult the introductory section of the PHYS 1050 Laboratory Manual (2019-2020) for more details.

POLICY ON LABORATORY ATTENDANCE AND SUBMISSION OF LAB REPORTS

Attendance at **all** laboratory sessions is mandatory. However, in order to pass the course, students are required to complete **at least four out of the five experiments** scheduled in the laboratory sessions. Credit for a completed lab requires that a lab report be submitted.

Laboratory reports are generally due by the end of the laboratory period, and must be submitted into an online dropbox which can be found in UM Learn. The Dropbox closes at the end of the lab period and late reports will not be accepted. Consult the introductory section of the PHYS 1050 Laboratory Manual (2019-2020) for more details.

STUDENT ACCESSIBILITY SERVICES

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services

520 University Centre

204 474 7423

<http://umanitoba.ca/student/saa/accessibility/>

Student_accessibility@umanitoba.ca

SCHEDULE A

A Schedule A document is posted on the course website. This is a Policy and Resource Document with information on various University and Unit policies regarding academic integrity, student discipline, and respectful learning environment, for example, and on academic and student supports that are available, including a statement regarding mental health with referral information to the Student Counselling Centre and University Health Services.

**PHYS 1050 Lecture/Laboratory/Tutorial/Test Schedule
Fall 2019**

Week	Date	Lecture	Topic	Laboratory/Tutorial/Test	
1	W Sep. 4 F 6	1 2	Kinematics Chapter 1 Chapter 2 Chapter 3 Chapter 4	NO LABS OR TUTORIALS	
2	M 9 W 11 F 13	3 4 5		Expt. 1 – Part I Motion Down a Frictionless Incline	
3	M 16 W 18 F 20	6 7 8		Expt. 1: Part II Motion Down a Frictionless Incline	
4	M 23 W 25 F 27	9 10 11		Dynamics Chapter 5 Chapter 6	TUTORIAL 1
5	M 30 W Oct. 2 F 4	12 13 14		Work and Energy Chapter 7 Chapter 8	Expt. 2: Centripetal Force
6	M 7 W 9 F 11	15 16 17			TUTORIAL 2
7	M 14 W 16 Th 17 F 18		NO LECTURE (Thanksgiving) MID-TERM TEST (6:00 p.m. - 8:00 p.m.)	NO LABS OR TUTORIALS	
8	M 21 W 23 F 25	20 21 22	Linear Momentum and Collisions Chapter 9	Expt. 3: Conservation of Energy	
9	M 28 W 30 F Nov. 1	23 24 25		RESEARCH LAB TOURS	
10	M 4 W 6 F 8	26 27 28		Rotational Kinematics and Dynamics	Expt. 4. Collisions
11	M 11 W 13 F 15		NO LECTURE (Remembrance Day) NO LECTURE (Fall Break)	NO LABS OR TUTORIALS	
12	M 18 W 20 F 22	29 30 31	Chapter 10 Chapter 11 Chapter 13, sec. 6	TUTORIAL 3	
13	M 25 W 27 F 29	32 33 34		Expt. 5: Rotational Dynamics	
14	M Dec. 2 W 4 F 6	35 36 37		Special Relativity Chapter 37	NO LABS OR TUTORIALS

HOMEWORK PROBLEMS

Perhaps the most important thing you will learn from this course is how to think logically and solve problems. This is an important skill that can be applied to any subsequent area of study. Solving problems yourself and discussing them with your instructor and your classmates is the best way to learn.

A list of recommended problems will be announced in lectures and posted on the course web page. You should solve as many of the recommended problems as possible, attempting them as the material is discussed in class. Be cautioned that reading solutions prepared by someone else is no substitute for working them out yourself. Note that numerical answers for odd numbered questions and problems are given in the back of the textbook. If you have extra time, it is always advisable to work on additional problems from the textbook. Note also that previous years tests and solutions will be provided for your reference on the course website.

Additional aids to solving problems and understanding the important concepts are available on the Wiley website: www.wiley.com/college/halliday. Click on the student companion guide icon for the 11th edition of Halliday, Resnick and Walker, where you can explore several helpful resources, including Interacting Learningware, Concept Simulations, and Problem Hints and Solutions.

PLAGIARISM AND CHEATING

(University of Manitoba Undergraduate Calendar, General Academic Regulations, Academic Integrity)

To plagiarize is to take ideas or words of another person and pass them off as one's own. In short, it is stealing something intangible rather than an object. Obviously it is not necessary to state the source of well known or easily verifiable facts, but students are expected to acknowledge the sources of ideas and expressions they use in their written work, whether quoted directly or paraphrased. This applies to diagrams, statistical tables and the like, as well as to written material, and materials or information from Internet sources. To provide adequate documentation is not only an indication of academic honesty but also a courtesy which enables the reader to consult these sources with ease. Failure to do so constitutes plagiarism. It will also be considered plagiarism and/or cheating if a student submits a term paper written in whole or in part by someone other than him/herself, or copies the answer or answers of another student in any test, examination, or take-home assignment.

Plagiarism or any other form of cheating in examinations or term tests (e.g., crib notes) is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university). A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.

EXAMINATIONS: PERSONATIONS

(University of Manitoba Undergraduate Calendar, General Academic Regulations, Final Examinations)

A student who arranges for another individual to undertake or write any nature of examination for and on his/her behalf, as well as the individual who undertakes or writes the examination, will be subject to discipline under the university's Student Discipline Bylaw, which could lead to suspension or expulsion from the university. In addition, the Canadian Criminal Code treats the personation of a candidate at a competitive or qualifying examination held at a university as an offence punishable by summary conviction. Section 362 of the Code provides:

Personation at Examination

362. Every one who falsely, with intent to gain advantage for him/herself or some other person,

personates a candidate at a competitive or qualifying examination held under the authority of law or in connection with a university, college or school or who knowingly avails him/herself of the results of such personation is guilty of an offence punishable on summary conviction. 1953- 54,c.51,s.347.

Both the personator and the individual who avails him/herself of the personation could be found guilty. Summary conviction could result in a fine being levied or up to two years of imprisonment.

FACULTY OF SCIENCE STATEMENT ON ACADEMIC DISHONESTY

The Faculty of Science and The University of Manitoba regard acts of academic dishonesty in quizzes, tests, examinations, laboratory reports or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include, but are not limited to bringing unauthorized materials into a test or exam, copying from another individual, using answers provided by tutors, plagiarism, and examination personation.

Note: cell phones, pagers, PDAs, MP3 units or electronic translators are explicitly listed as unauthorized materials, and must not be present during tests or examinations.

Penalties that may apply, as provided for under the University of Manitoba's Student Discipline ByLaw, range from a grade of zero for the assignment or examination, failure in the course, to expulsion from the University. The Student Discipline ByLaw may be accessed at:

http://umanitoba.ca/admin/governance/media/Student_Discipline_Bylaw_-_2009_01_01.pdf

The Faculty of Science guidelines on plagiarism and cheating and suggested minimum penalties are available at:

http://umanitoba.ca/faculties/science/resources/Acad_Dishon_TABLE_RevCSS_AdminC_Jul2012_WEB.pdf

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report all incidents of academic dishonesty to the Head of the Department.