

COURSE NO: **PHYS 1050** **TITLE: Physics 1: Mechanics**

Web Site: http://www.physics.umanitoba.ca/~hu/phys_1050/index.htm

LECTURES

A01 **MWF 9:30 a.m.** **EITC E3 270**
 Dr. F. Lin office: 513 Allen Bldg Consultation Times: 10:30 – 11:30 am (MW)
 Tel: 474-9895 email: flin@physics.umanitoba.ca

A02 **MWF 9:30 a.m.** **TIER 206**
 Dr. J. Sirker office: 515 Allen Bldg Consultation Times: 10:30 – 11:30 am (MW)
 Tel: 474-6192 email: sirker@physics.umanitoba.ca

A03 **MWF 1:30 p.m.** **ARMES 208**
 Dr. C.-M. Hu office: 332 Allen Bldg Consultation Times: 2:30 – 3:30 pm (MW)
 Tel: 474-6189 email: hu@physics.umanitoba.ca

LABS/TUTORIALS Room 403-405Allen

The first laboratory in PHYS1050 is during the week of September 14, 2015. 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 either of Rooms 403 or 405 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 3 of this document. Dr. Ruth Cameron Yamchuk (Room: 401 Allen Building, ruth.cameron@umanitoba.ca) and Andriy Yamchuk (Room: 401 Allen Building, Ph: 204 474 9214) 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 tour will be arranged in the week of Nov. 9, 2015, to show the research labs in the Department of Physics and Astronomy.

REQUIRED TEXTBOOKS & MATERIALS

Halliday, Resnick, and Walker, *Fundamentals of Physics*, 10th edition (Wiley)
 PHYS 1050 Laboratory Manual 2015-2016, e-book code available in bookstore
 iClicker – This system will be used to enhance classroom problem solving and discussion sessions.

EVALUATION PROCEDURE:

* Laboratory reports (5)	20%
* Tutorial tests (3)	10%
Term test	20%
Final exam	50%
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Total	100%

NOTE: Students having taken PHYS 1050 within the last 2 years MAY APPLY for an exemption from the laboratory component of the course in 2015-16, 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 14, 2015. Students who receive an exemption will have their previous laboratory mark credited directly towards the 2015-16 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.**

SCHEDULE OF TERM WORK AND TESTS:

Three tutorial tests	(see attached schedule)
Five laboratory reports	(see attached schedule)
Midterm test	Thursday, October 22, 2015, 7:00-9:00 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 (2015-2016) 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, with the raw data signed by the Teaching Assistant.

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 (2015-2016) for more details.

**PHYS 1050 Lecture/Laboratory/Tutorial/Test Schedule
Fall 2015**

Week	Date	Lecture	Topic	Laboratory/Tutorial/Test	
1	F Sep 11	1	Kinematics	NO LABS OR TUTORIALS	
2	M 14	2	Chapter 1 Chapter 2 Chapter 3 Chapter 4	Expt. 1 – Part I Motion Down a Frictionless Incline	
	W 16	3			
	F 18	4			
3	M 21	5		Dynamics Chapter 5	Expt. 1: Part II Motion Down a Frictionless Incline
	W 23	6			
	F 25	7			
4	M 28	8			Chapter 6
	W 30	9			
	F Oct 2	10			
5	M 5	11	NO LECTURE (Thanksgiving)		
	W 7	12			
	F 9	13			
6	M 12	14		Work and Energy Chapter 7	
	W 14	15			
	F 16	16			
7	M 19	17			MID-TERM TEST (7:00 p.m. - 9:00 p.m.)
	W 21				
	Th 22				
	F 23				
8	M 26	19	Chapter 8	Expt. 3: Conservation of Energy	
	W 28	20			
	F 30	21			
9	M Nov 2	22	Linear Momentum and Collisions Chapter 9	TUTORIAL 2	
	W 4	23			
	F 6	24			
10	M 9	25	NO LECTURE (Remembrance Day)	RESEARCH LAB TOUR	
	W 11				
	F 13	26			
11	M 16	27	Rotational Kinematics and Dynamics	Expt. 4. Elastic Collision	
	W 18	28			
	F 20	29			
12	M 23	30	Chapter 10 Chapter 11	TUTORIAL 3	
	W 25	31			
	F 27	32			
13	M 30	33	Special Relativity Chapter 37	Expt. 5: Rotational Dynamics	
	W Dec 2	34			
	F 4	35			
14	M 7	36	Chapter 37	NO LABS OR TUTORIALS	
	W 9	37			

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 are provided for your reference in the Laboratory Manual.

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 10th 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, page 47, http://umanitoba.ca/student/records/media/2015-2016_Undergraduate_Academic_Calendar_July_15_15.pdf)

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, page 45 – 46, http://umanitoba.ca/student/records/media/2015-2016_Undergraduate_Academic_Calendar_July_15_15.pdf)

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.