

Mechanics: From Oscillations to Chaos
PHYB54
Winter 2018

Professor Hanno Rein

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Website	<code>http://rein.utsc.utoronto.ca</code>
Office	SW 504 C, for office hours check the iPad at the door
Textbooks	The lectures will closely follow the textbook Classical Mechanics by John R. Taylor. The library has several copies on course reserve.
Lecture	Thursdays 12:00 - 14:00 HW 215 You are allowed to use electronic devices such as laptops and phones in class. However, to minimize the impact on other students, everyone who using a laptop or phone in class should sit on the right side of the room (as seen from the students' perspective). Note that although this lecture occurs during lunchtime, eating lunch during the lecture is not acceptable.
Tutorial	Wednesdays 12:00 - 13:00 IC320
Assignments	Roughly each week, you will be given a problem set at the end of the lecture or the end of the tutorial. The deadline for submissions is the following week on Monday at noon. This is a hard deadline. We will discuss the problems the following day in the tutorial. The problems will closely follow the course material and are designed to prepare you for the quizzes and the exams. You may work in groups to solve the problems but you need to hand in your own set of answers. Photocopying and copy-and-pasting is not sufficient. Most importantly, if you submit an answer, you need to understand it . Be prepared to present your answer at the blackboard during the tutorial. Failure to be able to present a submitted (and correct) answer will nullify all answers to the week's problem set.
Quizzes	You will write many small quizzes both during the lectures and the tutorials. You are therefore strongly encouraged to be on time.

Final Exam	The final exam will take place during the exam period. The exam may include, but is not restricted to, material from all lectures and all tutorials. You can use a non-programmable calculator.								
Grading Scheme	The final grade will be calculated as follows: <table> <tr> <td>Assignments</td> <td>20 points</td> </tr> <tr> <td>Quizzes</td> <td>20 points</td> </tr> <tr> <td>Midterm</td> <td>20 points</td> </tr> <tr> <td>Final exam</td> <td>40 points</td> </tr> </table>	Assignments	20 points	Quizzes	20 points	Midterm	20 points	Final exam	40 points
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Absences	In the case of a problem that supports an absence to a tutorial or quiz, or an inability to hand in a problem set before the tutorial session, your grade will be calculated on the basis of all other tutorial work. Valid and official supporting documentation must be submitted within five business days of the missed tutorial or quiz.								
Accessibility	Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in SW302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca .								
Academic Integrity	<p>Academic integrity is one of the cornerstones of the University of Toronto. It is critically important both to maintain our community which honours the values of honesty, trust, respect, fairness and responsibility and to protect you, the students within this community, and the value of the degree towards which you are all working so diligently. Detailed information about how to act with academic integrity, the Code of Behaviour on Academic Matters, and the processes by which allegations of academic misconduct are resolved can be found online: http://www.artsci.utoronto.ca/osai/students.</p> <p>According to Section B of the University of Toronto's Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) which all students are expected to know and respect, it is an offence for students to:</p> <ul style="list-style-type: none"> • To use someone else's ideas or words in their own work without acknowledging that those ideas/words are not their own with a citation and quotation marks, i.e. to commit plagiarism. • To include false, misleading or concocted citations in their work. • To obtain unauthorized assistance on any assignment. • To provide unauthorized assistance to another student. This includes showing another student completed work. • To submit their own work for credit in more than one course without the permission of the instructor. • To falsify or alter any documentation required by the University. This includes, but is not limited to, doctor's notes. 								

- To use or possess an unauthorized aid in any quiz or exam.

Specifically to this course, please be reminded that you need to understand every solution that you submit. If you work together on an assignment, you still have to be able to present your submission.

There are other offences covered under the Code, but these are by far the most common. Please respect these rules and the values which they protect. Offences against academic integrity will be dealt with according to the procedures outlined in the Code of Behaviour on Academic Matters.

Tentative Class Schedule

Week	Dates	Tutorial (Wednesday)	Lecture (Thursday)
1	Jan 11	No tutorial	Newton's Laws of motion Chapter 1
2	Jan 18	Project	Projectiles and Charged Particles Chapter 2
3	Jan 25	Assignment 1	Momentum and Angular Momentum Chapter 3
4	Feb 1	Assignment 2	Energy Chapter 4
5	Feb 8	Assignment 3	Oscillations Chapter 5
6	Feb 15	Assignment 4	Oscillations Chapter 5
7	Feb 22	Assignment 5	Reading Week
8	Mar 1	Midterm	Project
9	Mar 8	Midterm discussion	Central Force Problems Chapter 8
10	Mar 15	Assignment 6	Coupled Oscillators Chapter 11
11	Mar 22	Assignment 7	Chaos Chapter 12
12	Mar 29	Assignment 8	Chaos Chapter 12
13	Apr 5	Project	TBD