Classical Mechanics

PHY C54 - Fall 2019

Lecture	Wednesday	12:00 pm - 2:00 pm	IC 320
Tutorial	Tuesday	12:00 pm - 2:00 pm	HW 4W 4T

	9:30 am - 11:30 am	
Wednesday	9:30 am - 11:30 am	2:30 pm - 4:30 pm
Thursday	9:30 am - 11:30 am	12:30 pm - 2:30 pm

Course Description and Requirements

A course that will concentrate in the study of symmetry and conservation laws, stability and instability, generalized co-ordinates, Hamilton's principle, Hamilton's equations, phase space, Liouville's theorem, canonical transformations, Poisson brackets, Noether's theorem.

By the end of the course you will be able to:

Identify and define the basic vocabulary used in Lagrangian and Hamiltonian Mechanics and employ related variational methods to study mechanical systems.

Apply the fundamental principles of Lagrangian Mechanics to the description of systems in noninertial frames of reference and to the analysis of the motion of rigid bodies.

Continue building a mathematical toolbox connected to quan

Grade Components

Reading Quizzes (5%)
Each week on the course website you will be asked a set of questions from the assigned readings for the upcoming week. You will have until 09:55 am on Wednesday to submit your answers. Each quiz is worth 5 points, and your final grade is the total sum of all quizzes up to a maximum of 50 points. Use the Class Schedule found at the end of this document to prepare for the lectures and reading quizzes.

Tutorial Work (15%)
During the tutorials we will discuss the most important points in the problem sets as well as difficult points you may have encountered in your readings. Please note that the problem sets will not be collected or graded and it is your responsibility to make sure you understand the discussions presented in these problems. The assessment of your work will be a combination of tutorial quizzes, group work, blackboard problems, electronic homework, and take-home questions.

Test #1 (15%)
This 90-minute long test will be scheduled during Week 5. Content includes all lecture discussions, textbook readings, and problem sets up to and including the material assigned and discussed in Week 4.

Test #2 (20%)
This 2-hour long test will be scheduled during Week 9. Content includes all lecture discussions, textbook readings, and problem sets up to and including the material assigned and discussed in Week 8.

Both tests will include conceptual questions in multiple-choice or short-answer format, and detailed problems. The only aids allowed are your non-programmable scientific calculator, and a hand-written, double-sided, and letter-sized aid sheet that may not include explicit problem solutions. Photocopies or computer printouts are not allowed.

Final Examination (45%)
The final examination will be scheduled during the exam period of December 06 - 21. Content for the final examination includes all the topics discussed in the assigned textbook readings, problem sets, and tutorial work. The final examination will be 3 hours long and the format includes conceptual

Absences

In the case of a valid and documented problem that supports an absence to a tutorial, the grade will be calculated on the basis of all other work. In the case of a valid and documented problem that supports an absence to the first test, the second test will have its weight increased accordingly. In the case of a valid and documented problem that supports an absence to the second test, the final examination will have its weight increased accordingly. If the problem is health-related use the official form: http://www.utsc.utoronto.ca/ registrar/resources/pdf_general/UTSCmedicalcertificate.pdf

Name and Student Number

Course Support

Access Ability

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a