

# Phys 939: Classical Mechanics

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Fall 2009

Time and location T R 11:10-12:30pm DEM 253

Instructor: Silas Beane

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Office hours: R 3:30-4:30pm

Course homepage: [http://nuclear.unh.edu/~silas/CMcourse\\_F09/CM.html](http://nuclear.unh.edu/~silas/CMcourse_F09/CM.html)

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This is a one semester graduate course in classical mechanics.

## Textbook and Subject Matter

There is no required textbook for this course. The following three textbooks –which are on reserve in the physics library– will be helpful accompaniment to the lectures:

- H.S. Goldstein, C.P. Poole, and J.L. Safko, *Classical Mechanics* (3rd ed.), Addison-Wesley, 2002 (ISBN 0-201-65702-3).  
(**TYPOS:** <http://astro.physics.sc.edu/goldstein/>)
- L.D. Landau and E.M. Lifshitz, *Mechanics* (3rd ed.), Pergamon, 1976 (ISBN 0-08-021022-8).
- A.L. Fetter and J.D. Walecka, *Theoretical Mechanics of Particles and Continua*, McGraw-Hill, 1980 (ISBN 0-07-020658-9).

If you decide to purchase one of these, I would recommend Goldstein. We will use material from other sources as well.

A rough outline of the subject matter to be covered and a calendar with links to homeworks and exams may be found on the course homepage.

## Email and Office Hours

I strongly encourage students to communicate with me by email for administrative issues. At times, I'll communicate with the class by email. Please, no physics questions via email!

If necessary you may visit me outside of office hours but please do not be offended if I'm unable to speak with you immediately.

## Homeworks, Exams and Grades

The grades for this course will be based on homework (30%), a midterm exam (30%) and a final exam (40%). The final exam will be comprehensive.

You will have two weeks to complete each homework set; there will be roughly six homework assignments. In grading there will be a strong emphasis on neatness and logic of presentation. The homeworks will be long and difficult. If you start working on an assignment the day before it's due, you will not finish it in time. Late homeworks will not be accepted unless there is a compelling rationale. I believe that most of what you'll get out of this class will be from the homeworks. Several of the assigned problems may involve numerical simulation.

I encourage you to work on the homework in groups. However, the work that you hand in must be your own, and you must list your collaborators on your manuscript as well as any references you have used (e.g. you may find a solution to a problem on the web). I take this very seriously; a failure to acknowledge sources may result in a loss of all credit for the assignment, or worse. If there are take-home exams, there will be no collaboration permitted.

