

Physics 605
Classical Mechanics
Fall Quarter 2008-2009

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Office Hours: Specific times To Be Announced or by appointment.

Course website: <http://www.phy.ohiou.edu/~rollinsr/phys605/>

Text:

Classical Mechanics, Goldstein, Poole, and Safko, third edition, Addison-Wesley (2002).

Errata (some serious) for up to and including the 6th printing can be found at:

<http://astro.physics.sc.edu/Goldstein/>

Extensive lecture notes are provided on the course website:

<http://www.phy.ohiou.edu/~rollinsr/phys605/>

Note: These lecture notes are a very important resource for the course and it is recommended that you study the relevant sections before the corresponding class lectures.

Topics to be covered: (essentially Ch. 1–6 and 8 in Goldstein + Lecture notes)

Brief review of Newtonian Mechanics, phase space and phase portraits.

Lagrangian formulation derived from Newtonian Mech. and from Variational Principles.

Two-body central force problems.

Kinematics and dynamics of rigid body motion.

Small Oscillations.

Hamiltonian formulation of Mechanics.

Introduction to canonical transformations.

Grading policy:

Home-work:	approx. one set per week	20%	(if HW av. higher than Exam av.)
		10%	(if HW av. lower than Exam av.)
Exams:	Midterm and Final Exams	$xx\%$	Remaining part of final grade.
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		100%	

University policy on Academic Conduct:

Cheating on examinations, submitting work of other students as your own, or plagiarism in any form will result in penalties ranging from an F on the assignment to expulsion from the university, depending on the seriousness of the offense.

A special word about problem sets:

Homework solutions will be due at the beginning of class period on the due date. Exceptions must be very exceptional. Collaboration with other students is acceptable but each student must write their own solution. Copying someone else's work is not acceptable.