

PHYS 424 Classical Mechanics

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Newtonian mechanics. Mathematical formulation of the dynamics of a particle and systems of particles, including applications to atomic physics. Mechanics of continuous media using Fourier series. Introduction to generalized coordinates and the methods of Lagrange and Hamilton.

- Class MW 11:30-12:45
- Office Hours M 1:00-2:00
- Textbook “Classical Mechanics” by Taylor
- Homepage for course <http://www.physics.unlv.edu/~lepp/classes/phy424/index.htm>
- Grading will be distributed among:
 - Homework. I will assign problems, unless stated otherwise, problems are due the next class period.
 - Tests. There will be a two term tests roughly equally distributed through the semester (Feb 17 and Mar 31)
 - Final is on May 11 at 10:10.

Week	Chapter	Subject
1	11	Coupled Oscillators
3	12	Chaos
5		First Exam (Feb 16)
6	13	Hamiltonian Mechanics
8	14	Collision Theory
9		Spring Break
11		Second Exam (Mar 30)
11	15	Special Relativity
13	16	Continuum Mechanics

Table 1: Chapters Covered — to be updated

1 Learning Outcomes

The students will have a broad understanding of Classical Mechanics. Particular skills will include applications of the following: Newton's Laws, Lagrangian and Hamiltonian formulations, noninertial frames, rigid bodies, coupled oscillators and scattering.