Physics 610
Analytical Mechanics

Instructor: Jason Kumar
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Class meets:
T Th 9-10:15am
TBA

Required Textbook:
Classical Mechanics (3rd Edition)
Herbert Goldstein, Charles Poole, John Safko

Topics to be covered:

Lagrangians

The Two-Body Problem

Rigid Body Motion

Hamiltonians and Canonical Transformations

Grading:

The course grade will be based on homework and exams

60% -- homework
20% -- midterm
20% -- final

Student Learning Outcomes:
At the successful completion of this course, students will be expected to:

1) Be able to solve problems in classical mechanics, including advanced examples of two-body motion and rigid body motion.
2) Understand the Lagrangian formalism, and its application to solving problems in classical mechanics.
3) Understand the Hamiltonian formalism, canonical transformations, and their relations to quantum mechanics and statistical mechanics.