

# Classical Mechanics I --Phys 3201-A

Instructor

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Place and Times

MWF, 9:00-9:55am

Room L5, Howey Physics Building

Course Description

The course offers theoretical treatment of the dynamics of particles including oscillations, central force motion, and collisions.

Textbook

Kleppner and Kolenkow: An Introduction to Mechanics (Cambridge, 2010)

Grading

Homework assignments will be posted on the web every Thursday and will be due next Thursday in

class. You can discuss problems with each other, but the solutions have to be executed and submitted individually. In general you are expected to comply with the academic honor code. There will also be two midterm exams and a final. The overall grade for the course will be based on the homeworks (33%), mid-term exams (33%) and the final (34%).

### Course Topics

- \* Newton's laws
- \* Applications of Newton's laws
- \* Systems of particles and momentum conservation
- \* Momentum transport and rocket motion
- \* Work and energy
- \* Equilibrium states and stability
- \* Small oscillations about stable equilibria
- \* Collisions
- \* Angular momentum
- \* Oscillations
- \* Central force motion