Prerequisites: 01:750:124 or 203 or 271; 01:640:CALC3 or permission of instructor.

Warning: This course is heavy on math!

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Office hour: Open door policy (by appointment)

Grader:  Runkai Tao
Email:  runkai.tao AT physics.rutgers.edu
Office:  ARC 230
Office Hour: Monday, 8:30 AM to 11:30 AM
Textbook:
Classical Mechanics
John R. Taylor,
University Science Books

Web Site Access:
http://www.physics.rutgers.edu/ugrad/381

Homework assignments, announcements and notes will be posted here. The website must be visited regularly.
Lectures

Place: ARC 107
Time: Wednesday 12:00 PM - 1:20 PM, Friday 1:40 PM - 3:00 PM
• Lectures are mainly blackboard based.
• Lecture notes will be posted on course website after each lecture.

Prerequisites: 01:750:124 or 203 or 271; 01:640:CALC3 or permission of instructor.
• Vector algebra and calculus
• Linear algebra (Matrix)
• Differential equations
• Variance of calculus
Homework (30%)

DUE every Friday 4 PM in grader’s mailbox. Solution will be posted after 5 PM (typically by midnight).

<~ 10 problems in each HW, 3 points each problem.
No late homework will be accepted.
One lowest grade will be dropped.

3 points if the problem was done almost entirely correctly, with at most a trivial error.

2 points if a generally correct approach was used, but some mistakes were made along the way.

1 point if a good faith effort was made, but the method of solution was significantly flawed.

0 points if little or no effort was made on the problem.
Exams (70%)

Midterm (Ch. 1-5) 10/18 30%
Final exam (1-9) TBD 40%

Midterm/Final: 3-4/6-8 problems.

Exam format: close book, neither homework nor PRINT lecture note is allowed. One cheat sheet (letter, double-sided) is allowed for midterm or Final exam.

Tentative letter grade range:

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Mechanics I

• Before Midterm (1\textsuperscript{st} half)
  – Review of Newtonian mechanics, basic concepts
  – Vector algebra and calculus
  – Motion in 2D, angular momentum, torque, …
  – Harmonic oscillator.

• After midterm (2\textsuperscript{nd} half)
  – Calculus of variance
  – Lagrange’s Equations
  – Central force (2-body)
  – Mechanics in non-inertial frame