

Advanced Mechanics. Spring 2019

Instructor: Artem G. Abanov

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Office Hours: TR 11:00-12:00

Text: These books are recommended.

- John R. Taylor, Classical Mechanics, University Science Books, ISBN-10: 189138922X | ISBN-13: 978-1891389221, Publication Date: 2005.
- L.D. Landau and E.M. Lifshitz, Mechanics, 3rd edition
- V.I. Arnold, Mathematical Methods of Classical Mechanics.

Grading:

1 exam	40%
Final (comprehensive)	40%
Homework (weekly)	20%

Evening exams on **Tuesday, March 19-21, take home.**

Final exam: **May 7, Tuesday, 8:00 – 10:00 a.m.; MPHY 213**

Prerequisites and Co-requisites: freshman mechanics, e.g. PHYS 218 or equivalent, calculus, and differential equations

Syllabus:

Block 1: Particle collisions and scattering . Rutherford's formula

Block 2: Oscillations and normal modes. Taylor Ch. 5 & 11, Landau Ch. 5.

Block 3: Rotation of rigid bodies. Taylor Ch. 10, Landau Ch. 6.

Block 4: Elasticity theory.

Block 5: Hydrodynamics.

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