

Syllabus

**Course: AP physics mechanics and
electromagnetism**

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**BOOK: Physics for scientists and engineers with
Modern physics. A strategic approach by
Randall D. Knight**

Course description: This is college course

***That correspond to the
university level course of physics for the science or
engineering majors of California Polytechnic State
University system.***

This course consists of two parts:

- A) Mechanics that study following topics:
*Linear and rotational kinematics, linear and
rotational dynamics, conservation laws,
simple harmonic motion.***
- B) Electromagnetism that study electrical and
*magnetic field, electrical and magnetic***

interactions, electrical circuits for dc/ac currents and their elements, electromagnetic induction.

Operational mode: this course will begin by 2 weeks of calculus review especially concept of derivative and integrals and methods of analyzing graphs. Main methods of study this course are active class participation through class discussions, work at the board (mandatory), and working at workstations as group. Homework and chapter reading are also essential parts of successful mastering of this course. This course involves solving of very challenging problems and deep analysis of conceptual questions. There will be lab practicum after finishing each part.

Grading: Homework -10%

Weekly assignments - 30%

Work at the board -20%

Tests -25%

Labs -15%