



## METADATA

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### Abstract

This book covers the syllabus of a course on Mechanics that is usually scheduled in the second year of the curriculum of a Physics Department. The book material includes particle kinematics and dynamics in the Newtonian approach, the presentation of Newton's laws, the relevant integrals and their use, oscillations, motion in non-inertial reference frames, motion in a central field including the gravitational field, the

two-body problem, collisions and scattering, rigid body dynamics, gravitational field due to mass distribution, as well as an introduction to Analytical Mechanics. Each part contains the corresponding theory, its application through selected examples and several exercises. Most solutions are given, covering a variety of approaches. The coloured text is of increased difficulty and can be skipped on a first reading.

