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سایت آموزش مهندسی مکانیک ایران

Introduction

Dynamics is the branch of mechanics that deals with the motion of particles and bodies under the action of forces. The subject matter covered in the study of dynamics builds on material learned in statics, which deals with the effects of forces on bodies at rest.

Dynamics has two distinct components:

- a) *Kinematics* which is the study of motion without reference to the forces that cause it;
- b) *Kinetics or dynamics*, which relates the action of forces on bodies to their resulting motions.

A thorough understanding of dynamics is essential to the study of more advanced engineering topics such as dynamics of machines and mechanical vibrations. The principles of dynamics are widely used in the design of ground and air vehicles and many different types of machines.

