

Course Name:

Statics

Course Number:

20011

Credit:

3

Corequisite:

Mathematics1

Course Description (Objectives):

The main objective of the course is to enable students to perceive, and visualize problems related to Engineering Mechanics, Statics. We will be concerned with the development of principles of mechanics and their application, which are rigorously expressed by mathematics.

Newton's first law contains the principle of the equilibrium of forces, which is the main topic of concern is Statics. This law is the consequence of the second law of Newton that will be discussed in course titled as Dynamics.

Course Content (outline):

- Chapter 1: Introduction to Statics
- Chapter 2: Force Systems
- Chapter 3: Equilibrium
- Chapter 4: Structures
- Chapter 5: Distributed Forces
- Chapter 6: Friction (including Dry Friction and Rolling Resistance)
- Chapter 7: Virtual Work
- Appendix A: Area Moment of Inertia
- Appendix B: Mass Moment of Inertia

References:

- Engineering Mechanics, Statics, 6th Edition, J. L. Meriam & L. G. Kraige.