

Course Name:

Vibrations of Structures

Course Number: 20-153	Credit: 3
Program: Graduate	Course Type: Technical Required
Prerequisite: -	Corequisite: -

Course Description (Objectives):

This course examines the dynamic behavior of structures under vibrations and introduces students to fundamental concepts, modeling of systems with various degrees of freedom, and analysis of their response to different types of excitations, especially earthquakes. The ultimate goal is to equip students with the ability to analyze and evaluate the vibrational response of structures in real-world conditions.

Course Content (outline):

- Chapter 1: Overview of Structural Dynamics
- Chapter 2: Single Degree of Freedom (SDOF) Systems
- Chapter 3: Generalized SDOF Systems
- Chapter 4: Multi Degree of Freedom (MDOF) Systems

References:

- Dynamics of Structures, Theory and Application to Earthquake Engineering, Anil K. Chopra, Prentice Hall, 4th Edition, 2006
- Dynamics of Structures, R.W. Clough and J. Penzien, McGraw Hill, 2nd Edition, 1993
- Dynamics of Structures, J.L. Humar, Prentice Hall, 1990