



Course Name:

Soil Dynamics

Course Number: 20-441	Credit: 3
Program: Graduate	Course Type: Technical Required
Prerequisite: -	Corequisite: -

Course Description (Objectives):

This course focuses on the fundamental principles of vibrations, the dynamic properties of soils, and the study of dynamic phenomena relevant to geotechnical engineering.

Course Content (outline):

- Chapter 1: Characteristics of dynamic problems
- Chapter 2: Principles of vibration
- Chapter 3: Wave propagation
- Chapter 4: Stress-strain relationships in cyclic loading
- Chapter 5: Dynamic properties of soils
- Chapter 6: Vibration of foundations
- Chapter 7: Liquefaction
- Chapter 8: Dynamic bearing capacity of shallow foundations
- Chapter 9: Dynamic lateral earth pressure

References:

- Principles of Soil Dynamics, Braja M. Das, 1993, PWS-KENT Pub. Company, ISBN No.: 0-534-93129-4
- Geotechnical Earthquake Engineering, Steven L. Kramer, 1996, Prentice-Hall, ISBN No.: 0-13-374943-6
- Soil Behavior in Earthquake Geotechnics, Kenji Ishihara, 1996, Oxford University Press, ISBN No.: 0-19-856224-1