Course Name:
Soil Dynamics

Course Number:
20441

Credit:
3

Course Content (outline):

1. Introduction
2. Characteristics of Dynamic Problems
3. Fundamentals of Vibrations
4. Wave Propagation
5. Representation of Stress-Strain Relations in Cyclic Loading
6. Dynamic Soil Properties
7. Foundation Vibration
8. Liquefaction
9. Dynamic Bearing Capacity of Shallow Foundations
10. 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
- Cyclic Loading of Soils, From Theory to Design, M.P.O'Reilly & S.F. Brown, 1991, Van Nostrand Reinhold, ISBN No.: 0-216-92898-2
- Soil Dynamics, Shamsher Prakash, 1981, Mac Graw Hill
- Geotechnical Earthquake Engineering, Ikuo Towhata, 2008, Springer