



Course Name:

Mechanics of Continuous Media I

Course Number: -	Credit: 3
Program: Graduate	Course Type: Technical Selective
Prerequisite: -	Corequisite: -

Course Description (Objectives):

This course aims to introduce civil engineering students to the basics of continuum mechanics. It focuses on understanding the relationships between forces and deformations and learning about soil behavior models for material analysis in engineering projects.

Course Content (outline):

- Chapter 1: Introduction (Introduction to soil micromechanics and continuum mechanics)
- Chapter 2: Mathematical fundamentals
- Chapter 3: Theory of deformation
- Chapter 4: Stress tensor
- Chapter 5: General principles of continuum mechanics
- Chapter 6: Elastic models
- Chapter 7: Perfect plastic models
- Chapter 8: Hardening models

References:

- W.F. Chen & G.Y. Baladi, "Soil Plasticity: Theory and Implementation", Elsevier, 1985.
- W.F. Chen & E. Mizuno, "Nonlinear Analysis in Soil Mechanics: Theory and Implementation", Elsevier, 1990.
- A.J.M. Spencer, "Continuum Mechanics", Courier Corporation, 2012.