Department of Civil Engineering

Course Name:

Stability of Structures

Course Number: 20-151	**Credit:** 3
Program: Graduate	**Course Type:** Technical Selective
Prerequisite: -	**Corequisite:** -

Course Description (Objectives):

This course introduces the behavior of structures at their critical load-bearing limit. Methods for calculating this load in beams and simple frames within the elastic range are taught.

Course Content (outline):

- Chapter 1: Stability analysis of columns using the static method
- Chapter 2: Effect of shear and axial deformation
- Chapter 3: Column with initial imperfection
- Chapter 4: Bimodular critical load
- Chapter 5: Stability analysis of structures using the static method
- Chapter 6: Triangular frames, multi-story frames
- Chapter 7: Structures with inelastic behavior
- Chapter 8: Dynamic method
- Chapter 9: Energy methods
- Chapter 10: Buckling of plates and shells

References:

- Croll-and-Walker-Elements of Structural Stability-1972
- Newmark & Hall
- The Stability of Frames-Elsevier Ltd, Pergamon, 1965