

## Course G1463: STRENGTH OF MATERIALS

### GENERAL INFORMATION

Fall Semester  
6 ECTS credits

### INSTRUCTOR(S)

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### Description

The course presents the basic concepts related to the analysis and design of structural members subjected to tension, compression, torsion and bending. Specific topics include: stress and strain, deformations and displacements, elasticity and plasticity, stresses in beams, deflections of beams, internal forces diagrams, statically indeterminate beams, composite beams, energy methods.

### TEXTBOOK

*Mechanics of Materials. James M. Gere and Barry J. Goodno*

### SYLLABUS

1. Introduction
2. Review of Centroids and Moments of Inertia
3. Tension, compression and shear
4. Axially loaded elements
5. Shear forces and bending moments
6. Torsion
7. Stresses in Beams. Basic Topics
8. Stresses in Beams. Advanced Topics