CCET 2604 - Properties and Strength of Materials

Fall 2026 Syllabus, Section 01, CRN 40813,

Credit hours: 3

Instructor

Matthew Schiedel

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Public Instructor Information

Instructor Professional Qualifications:

Master's, Civil & Environmental Engineering, Youngstown State University, 2014

Bachelor's, Surveying & Mapping, University of Akron, 2010

Bachelor's, Civil & Construction Engineering Technology, Youngstown State University, 2008

Instructor Office Location: *Moser Hall - 4120*
Instructor Office Phone: *330-941-3287*

Course Description

2604. Properties and Strength of Materials. Introduction to the physical and chemical properties of materials and their behavior under various loads and environments. Concepts of stress and strain developed and evaluated for the application of axial, shear, torsional, and bending loads. Four (4) hours lecture per week. Prereq.: Grade of "C" or better in ENTC 1505 and MATH 1513 or MATH 1510 or MATH 1510C and MATH 1511 or MATH 1511C. Prereq. or Coreq.: MET 1515. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Applied Strength of Materials, 7th Edition	Mott, Robert / Untener, Joseph a.	9780367820787

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Chapter 1	Materials, Nominal & Shear stress	
8/31	Chapters 1 & 2	Strain & modulus of elasticity	
9/7	Chapter 2	Atomic & crystalline structure	
9/14	Chapter 2	Stress vs strain relationships	
9/21	Chapters 2 & 3	Design of members under stress	Exam 1
9/28	Chapter 3	Design of members under stress	
10/5	Chapter 4	Torsional shear	
10/12	Chapters 2 & 4	Fatigue	
10/19	Chapters 2 & 4	Stress concentrations	
10/26	Chapter 6	Centroids and moment of inertia	
11/2	Chapter 7	Bending stress	Exam 2
11/9	Chapter 8	Shear stress	
11/16	Chapter 10	Combined stress – Mohrs Circle	

11/23	Chapter 10	Mohrs circle	
11/30	Chapter 9	Deflection	Exam 3
12/7			Project

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.