

COURSE SYLLABUS

ENGR 2332 Mechanics of Materials

COURSE INFORMATION

Credit Hours: 3

Term: Fall 2026

Time: Lecture: MW 12:15 PM - 1:35 PM

Classroom: F175

INSTRUCTOR INFORMATION

Name: Saman Rashidyan, Ph.D., PE, PMP

Office: Discovery Park F101J

Office Hours: MW 2-3 pm or by appointment

Phone: (940) 369-5263

Email: Saman.Rashidyan@unt.edu

COMMUNICATION EXPECTATIONS

- You can communicate with your instructor via email any time. Emails will be answered within 48 hours.
- Grades, PowerPoint files and announcements will be posted in Canvas.
- Homework will be assigned on WileyPlus platform (usually every Thursday).

COURSE DESCRIPTION

Relationships among loads placed on structural components; shape and size of components; resultant stresses, strains and deflections of components.

COURSE STRUCTURE

Course format and content delivery: face-to-face.

Length of the semester: Aug. 17 – Dec. 11

COURSE PREREQUISITE

ENGR 2301 with a grade of C or better.

COURSE OBJECTIVES

By the end of the course, you will be able to:

1. Understand the concepts of stress and strains, and the influence of loading direction on deformation.
2. Understand the impact of applied loads on design.
3. Know the final extensions on axially loaded members subjected to tensile or thermal stresses.

4. Understand the influence of torsional stresses on deformation of circular bars.
5. Understand shear force and bending moments diagrams.
6. Understand the principal stress based on applied loads.
7. Understand the influence of location of loads on deflection.
8. Understand the effects of end conditions on deformation.

STUDENT LEARNING OUTCOME

- a) Calculate stress-strains relations for typical engineering applications. (1, 2, 3, 7, 8)
- b) Analyze tensile loading of members. (1, 2, 3)
- c) Analyze torsion in beams. (1, 2, 4)
- d) Analyze beams in deflection. (1, 5, 7)
- e) Calculate principal stresses and angular dependence of stress. (6)
- f) Evaluate buckling of columns. (1, 6)
- g) Analyze columns under compression. (8)

MATERIALS

Required Textbook and Associated Software

Philpot, Timothy A., Mechanics of Materials: An Integrated Learning System, 4th Edition, Publisher: Wiley. Course outline is based on this textbook.

You will need to get online access from WileyPLUS for the assignments. (Course ID: C81985). The instructions are uploaded in Canvas.

MINIMUM TECHNOLOGY REQUIREMENTS

- Computer
- Reliable internet access
- [Canvas Technical Requirements](https://clear.unt.edu/supported-technologies/canvas/requirements) (<https://clear.unt.edu/supported-technologies/canvas/requirements>)

COMPUTER SKILLS & DIGITAL LITERACY

- Using Canvas
- Using email with attachments

TECHNICAL ASSISTANCE

Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues. UIT Help Desk: [UIT Student Help Desk site](http://www.unt.edu/helpdesk/index.htm) (<http://www.unt.edu/helpdesk/index.htm>)
Email: helpdesk@unt.edu , Phone: 940-565-2324

COURSE EVALUATION

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the

quality of student experiences in the course. Please don't forget to submit the course evaluation when the link is sent to you in November.

TENTATIVE COURSE OUTLINE

The course outline may be subjected to modifications with notice.

Week	Date	Topic	Book Chapter
1	8/17	Introduction, Normal, Shear and Bearing Stress	1
	8/19	Introduction, Normal, Shear and Bearing Stress	1
2	8/24	Deformation and Strain	2
	8/26	Deformation and Strain	2
3	8/31	Mechanical Properties of Materials	
	9/2	Mechanical Properties of Materials	3
4	9/7	Labor Day (no classes, university closed)	3
	9/9	Design Concepts	4
5	9/14	Design Concepts	4
	9/16	Axial Deformation	5
6	9/21	Axial Deformation	5
	9/23	Exam 1	
7	09/28	Torsion	6
	09/30	Torsion	6
8	10/5	Equilibrium of Beams	7
	10/7	Equilibrium of Beams	7
9	10/12	Bending	8
	10/14	Bending	8
10	10/19	Bending	8
	10/21	Shear Stress in Beams	9
11	10/26	Shear Stress in Beams	9
	10/28	Exam 2	
12	11/2	Shear Stress in Beams	9
	11/4	Beam Deflections	10
13	11/09	Statically Indeterminate Beams	11
	11/11	Stress Transformation	12
14	11/16	Stress Transformation	12
	11/18	Strain Transformation	13
15	11/23	Thanksgiving Break (no classes)	
	11/25		
16	11/30	Columns	16
	12/2	Review	
		Final Exam 10:30 a.m. – 12:30 p.m. Monday, December 7	

COURSE REQUIREMENTS

Exams

Exams will be based on the textbook, handouts, class exercises, homework, class lectures and class discussions. Students are responsible for all text material, regardless of whether we review the text material in class or not.

Missed Exams: You will be allowed to make up missed exams only if you have a documented university excused absence. Make-up exams may not be the same as the original.

Homework

Homework is posted on Wileyplus and due one week, unless otherwise noted.

Late Homework: It is the students' responsibility to submit all assignments on time. Homework cannot be accepted late as it is controlled by the WileyPLUS platform.

GRADING

Attendance/Participation	5
Assignments	25
Exam #1	20
Exam #2	20
Final Exam	30
Total	100

GRADE DISTRIBUTION

90 – 100 and higher	A
80-89	B
70-79	C
60-69	D
Below 60	F