



MENG 3306 – Mechanics of Materials Course Syllabus

Semester / Year	Spring 2025						
Catalog Description	Stress and strain; uniaxially loaded members; centroids and area moments of inertia; normal and shear stresses; beam deflections; buckling of columns; pressure vessels; combined stresses; failure criteria. Three hours of lecture per week.						
Prerequisites	Grade C or better in ENGR/EENG 2301 Mechanics - Statics						
Section Number	001						
Instructor Name	Dr. Hamed Hosseinzadeh						
Contact Information	Email: Hamed@UTTyler.edu						
Class Type / Instruction Mode / Location	Lecture F2F Ratliff Building North 03038						
Class Time	Tuesday and Thursday, 2:00 pm - 3:20 pm						
Office Hours	Tuesday and Thursday: 12:00 pm - 1:30 pm or by appointment						
No. of Credits	3						
Required Textbook	Mechanics of Materials, 10th edition, by Russell C. Hibbeler						
Optional References	N/A						
Additional rules and requirements	Students are permitted to use AI tools like ChatGPT, Copilot, and similar programs for specific assignments as designated by the instructor in this course.						
Evaluation Method	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Homework</td> <td style="text-align: right;">20 %</td> </tr> <tr> <td>Mid Exam</td> <td style="text-align: right;">35 %</td> </tr> <tr> <td>Final Exam</td> <td style="text-align: right;">45 %</td> </tr> </table>	Homework	20 %	Mid Exam	35 %	Final Exam	45 %
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Grading Policy / Scale	Letter grades: 90-100: A, 80-89: B, 70-79: C, 60-69:D, 0-59: F Note: 89.4 == B						
Important events/dates	https://www.uttyler.edu/schedule/files/2024-2025/academic-calendar-2024-2025-main-20240222.pdf						
Attendance / Makeup policy / other rules	Attendance at every class meeting is strongly encouraged. There will be no makeup for missed in-class work. An opportunity to make up a missed exam may be available to students with a university-validated and excused absence. If you have a valid reason to be absent and know ahead of time, you can discuss possible accommodations directly with the instructor.						
Course Learning Objectives / ABET &	By the end of this course, students will be able to: 1. Use external loads including axial force, moment, torque, shear force to determine internal forces and moments for a variety of structures and structural elements.						



PEOs Relation	<p>2. Determine the state of stress at a point different stress configurations and combined loading and find principal stresses and directions both analytically and graphically using the Mohr's circle diagram.</p> <p>3. Relate stress to strain using material properties and analyze the state of strain at a point and use strains to calculate deformations.</p> <p>4. Design shafts and beams and use load-deformation equations and other methods to calculate beam deflections.</p>
Tentative Topics / Course Plans	<ol style="list-style-type: none">1. Normal and shear stress2. Normal and shear strain3. Mechanical properties of materials4. Axial load5. Torsion6. Bending7. Stress and strain transformation8. Beam and shaft design9. Deflections of beams and shafts
University Policies	<p>https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information.pdf</p>