



CONE 331 Mechanics of Materials (Fall 2020)

: Applications of conservation principles and stress/deformation relationships for continuous media to structural members; axially loaded members; thin-walled pressure vessels; torsional and flexural members; shear; moment; deflection of members; combined loadings; stability of columns; indeterminate members. *Prerequisite* : CONE 211 / ENGR 210

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Office Hour: “Virtual” office hours will be announced

Lecture/Lab: Web-based Class

Required Text: Mechanics of Materials, 10th Ed, Russell C. Hibbeler, Prentice Hall
ISBN-10: 0134319656, ISBN-13: 978-0134319650

Learning Outcomes:

Upon satisfactory completion of the course, the student will be able to:

1. Calculate stress, strain, and deformation of materials subjected to axial, torsional, bending, and transverse loading.
2. Utilize the stress-strain diagrams for determining the mechanical properties of various materials.
3. Utilize stress transformation equations and Mohr’s circle to determine the principal stresses and the max shear stress.
4. Analyze beams and columns, and determine shear, bending, deflection, and buckling load.
5. Describe standard lab testing procedures and interpret data.

Course Policies:

- Course Requirements and Grades

Assignments & Quizzes	30%
Exam I	20%
Exam II	20%
Exam III	30%

- Grading

A	B	C	D	F
100 - 90	89 - 80	79 - 70	69 - 60	59 - 0

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<http://www.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette <http://www.albion.com/netiquette/corerules.html>

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Graduate Student Academic Dishonesty 13.99.99.R0.10

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

“A&M-Commerce requires the use of face-coverings in all instructional and research classrooms/laboratories. Exceptions may be made by faculty where warranted. Faculty has management over their classrooms. Students not using face-coverings can be required to leave class. Repetitive refusal to comply can be reported to the Office of Students’ Rights and Responsibilities as a violation of the student Code of Conduct.”

“Students should not attend class when ill or after exposure to anyone with a communicable illness. Communicate such instances directly with your instructor. Faculty will work to support the student getting access to missed content or completing missed assignments.”

Class Topics & Schedule:

Week #	Week of	Course Topic
1	24-Aug	Course Introduction / Stress
2	31-Aug	Stress
3	7-Sep	Strain
4	14-Sep	Mechanical Properties of Materials
5	21-Sep	Axial Load
6	28-Sep	Torsion
7	5-Oct	
8	12-Oct	Bending
9	19-Oct	Bending
10	26-Oct	Transverse Shear
11	2-Nov	Combined Loading / Stress Transformation
12	9-Nov	Strain Transformation / Design of Beams & Shafts
13	16-Nov	Deflection of Beams & Shafts
14	23-Nov	Buckling of Columns / TGB
15	30-Nov	Exam II
16	7-Dec	Final Exam