AME 3143-002: Solid Mechanics
MWF 10:30 – 11:20 AM
Devon Energy Hall, Room 130

Instructor: Dr. Shuozhi Xu
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Office Hours: Mondays 1:00 – 2:30 PM, Thursdays 10:15 – 11:45 AM, or by appointment
(students will be notified beforehand if some office hours are to be offered via Zoom)

TA: Mr. Omkar Gautam
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Phone: 405-476-1261 (cell)
Office Hours: Tuesdays 10:15 – 11:45 AM, Fridays 1:00 – 2:30 PM

Textbook: Mechanics of Materials. R.C. Hibbeler, 11th edition, Pearson, 2022.

Learning Goals:
By the end of the course, students will be able to…
1. Identify and understand basic mechanics terms, and understand their importance in the global aspect of engineering.
2. Utilize materials data to analyze basic systems.
3. See the importance of solid mechanics in everyday life, as well as future courses.
4. Understand current news and events related to solid mechanics
5. Be able to locate additional resources on solid mechanics.

Topics:
1. Stress and Strain (Weeks 1-2)
2. Mechanical Properties of Materials (Week 3)
3. Axial Load, Torsion, and Bending (Weeks 4-9)
4. Transverse Shear and Combined Loadings (Week 10)
5. Stress and Strain Transformation (Weeks 11-12)
6. Design of Beams and Shafts (Week 13)

Grade Distribution:
Homework (4)..... 36%
Mid-term exam (2)..... 30%
Project (1) 14%
Final exam 20%

Grading Policy:
90+..... A
80-89..... B
70-79..... C
60-69..... D
-59..... F

Classroom Policies:
Each class period, I expect all students to be prepared with textbook and calculator; they will be necessary for group exercises as well as in-class examples. Please refrain from doing homework for other classes or other activities during class; not all information is on presentations! Laptops and tablets should only be used for course activities. Please make sure you turn your cell phones to silent when you enter.

Canvas:
All lectures, homework assignments, solutions, and grades will be posted on Canvas (https://canvas.ou.edu/). The students should submit all homework and the project to Canvas. Unless the instructor gives prior approval, each day of late submission will result in a deduction of 3 points (out of 100 points) for that homework or project.

Academic Support:
The Gallogly College of Engineering has the infrastructure in place to help you succeed and to get you the support you need. Make sure you take advantage of the infrastructure available to you. For more information, please visit: https://www.ou.edu/coe/academics/student-support

Academic Integrity Policy:
Academic integrity means honesty and responsibility in scholarship. Academic assignments exist to help students learn; grades exist to show how fully this goal is attained. Therefore, all work and all grades should result from the student's own understanding and effort. Academic misconduct is any act which improperly affects the evaluation of a student's academic performance or achievement. Misconduct occurs when the student either knows or reasonably should know that the act constitutes academic misconduct. For more information, please visit: https://www.ou.edu/integrity/students

Use of Generative AI in Coursework:
Students may use generative AI tools such as ChatGPT, Bing AI, or Bard, to help them learn course content, complete course assignments, or do other course-related tasks. Students are expected to provide attribution for any text created using generative AI tools as appropriate.

Reasonable Accommodation Policy:
OU is committed to the goal of achieving equal educational opportunity and full participation for students with disabilities. OU ensures that no "qualified individual with a disability" will be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination solely on the basis of disability under any program or activity offered by OU. Therefore, if you have a disability that may prevent the full demonstration of your abilities in this course, please contact me personally as soon as possible so I can provide an appropriate contact to discuss accommodations necessary to ensure full participation and facilitate your educational opportunities. The OU Accessibility and Disability Resource Center provides support services to students with disabilities, see https://www.ou.edu/adrc, or contact the Center at adrc@ou.edu or 405-325-3852.

Adjustments for Pregnancy/Childbirth Related Issues:
Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. For commonly asked questions, please see www.ou.edu/eoo/faqs/pregnancy-faqs.htm

Mental Health Support:
The University Counseling Center provides comprehensive mental health services at OU within the Division of Student Affairs. One of their missions is to provide high quality counseling and crisis intervention to the campus community members, including students. They strive to promote the psychological wellbeing of all members of the university community to foster a rich and meaningful campus life experience. They remain committed to the practice of psychology as governed by applicable professional ethics codes and by federal and state laws. For more information, please visit: https://www.ou.edu/ucc

Title IX Resources:
For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on-call 24.7, counseling services, mutual no contact orders, scheduling adjustments and disciplinary sanctions against the perpetrator. Please contact the Institutional Equity Office 405-325-3546 (8 – 5, M – F) or OU Advocates 405-615-0013 (24.7) to learn more or to report an incident.

Tentative Semester Schedule:

Week	Date	Topic	Notes	Week	Date	Topic	Notes
1	8/21	Introduction		9	10/16	Chapter 6	
	8/23	Statics Review			10/18	Chapter 6	
	8/25	Chapter 1			10/20	Chapter 7	
2	8/28	Chapter 1		10	10/23	Chapter 7	HW 3 assigned, covering Chapters 6&7
	8/30	Chapter 1			10/25	Chapter 8	
	9/1	Chapter 2	HW 1 assigned, covering Chapters 1&2		10/27	Chapter 9	
3	9/4	No class	Labor Day	11	10/30	Chapter 9	HW 3 due
	9/6	Chapter 3			11/1	Chapter 9	Project assigned
	9/8	Chapter 3			11/3	Chapter 10	HW 3 solution released
4	9/11	Chapter 3	HW 1 due	12	11/6	Chapter 10	HW 4 assigned, covering Chapters 9&10
	9/13	Chapter 4			11/8	Chapter 10	
	9/15	Chapter 4	HW 1 solution released		11/10	Chapter 11	
5	9/18	Chapter 4	HW 2 assigned, covering Chapters 3&4	13	11/13	Chapter 11	HW 4 due
	9/20	Chapter 4			11/15	Chapter 11	
	9/22	Chapter 5			11/17	Review	HW 4 solution released
6	9/25	Chapter 5	HW 2 due	14	11/20	Mid-term exam 2	Covers Chapters 6 – 10
	9/27	Chapter 5			11/22	No class	Thanksgiving
	9/29	Chapter 5	HW 2 solution released		11/24	No class	Thanksgiving
7	10/2	Review		15	11/27	Q&A via Zoom	
	10/4	Mid-term exam 1	Covers Chapters 1 – 5		11/29	Discussion of mid-term exam 2	Mid-term exam 2 solution released
	10/6	No class	Fall break		12/1	Q&A via Zoom	Project due
8	10/9	No class	Instructor travels	16	12/4	Q&A via Zoom	
	10/11	Discussion of mid-term exam 1	Mid-term exam 1 solution released		12/6	Q&A via Zoom	
	10/13	Chapter 6			12/8	Q&A via Zoom	Project solution released

Zoom link: https://oklahoma.zoom.us/j/97026199957?pwd=RlRpOFlKbys2Q1F0eXRQalkvNG0vUT09 (only users with an OU Zoom account can join)

The project will use knowledge in Chapters 1 – 11, with a focus on Chapter 11.
Final exam: December 13, 8 – 10 AM
The final exam covers Chapters 1 – 10, not Chapter 11.