

CIVL 3322: Mechanics of Materials Spring 2026

Important: The instructor reserves the right to make changes as necessary to this syllabus. The instructor will notify students if changes are necessitated during the course term.

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Instructor's Office Hours: TBD

Times and Locations of the Course:

When: Mon, Wed, 11:10am-12:35pm

Where: Engr Science (ES) Bldg 114

Credit: 3 credit hours.

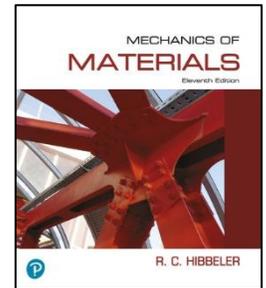
Prerequisite or Corequisite: Prerequisite: CIVL 2131.

Required Textbook: "Mechanics of Materials", 11th Edition, Russell C. Hibbeler, 2022 (students have an option of using the eBook version of the same edition of this book).

Calculator: TI-36x Pro or another NCEES¹ approved calculator as described in the NCEES Calculator Policy, copied below for reference. Students cannot use any other calculator in class work (e.g., quizzes, exams, etc.).

"The following calculator models are the only ones acceptable for use during the 2023 exams:

- **Casio:** All fx-115 and fx-991 models (Any Casio calculator must have "fx-115" or "fx-991" in its model name.)
- **Hewlett Packard:** The HP 33s and HP 35s models, but no others
- **Texas Instruments:** All TI-30X and TI-36X models (Any Texas Instruments calculator must have "TI-30X" or "TI-36X" in its model name.)"



Description: Analysis of components subjected to tension, compression, bending moment, torque; combined loading; Mohr's stress circle; deflection of beams; simple treatment of column buckling.

Learning Objectives: Upon successful completion of this course, students should be able to:

- **Determine** the average normal and shear stress and strain for axially loaded members
- **Understand** different material properties and their relationships
- **Determine** different mechanical properties of materials for elastic behavior
- **Determine** stress of indeterminate axially loaded members
- **Analyze** torque-loaded members for shear stress and deformations
- **Draw** shear force and bending moment diagrams
- **Compute** flexure members for normal stress
- **Compute** stress associated with transverse shear
- **Analyze** systems subject to combined loading to generate state of stress
- **Utilize** Mohr's stress circle to determine maximum stresses at a point and its orientation
- **Analyze** columns under axial loadings
- **Calculate** the deflection and slope of beams and shafts using double integration method

¹ National Council of Examiners for Engineering and Surveying

General Expectations: Meeting these expectations will help you succeed in the course, but it does not guarantee it:

- Show up on time or early
- Always bring a calculator (**TI-36X Pro or approved from the list above**), pencils, and paper (both writing and engineering paper)
- Take notes
- Have a binder or notebook dedicated solely to this course
- Contribute to the class discussion – I would like a collaborative class environment. As such, I will ask questions and provide examples for students during my class discussion. I expect that students contribute to the class discussion by attending the classes, answering questions, and volunteering to solve problems. These activities will contribute to the “Attendance and Contributions to the Class Discussion” grading criteria discussed under this document's “Grading Policies” section.

Grading Policies: Students can demonstrate their skills and knowledge via attendance and contributions to class discussions, homework assignments, quizzes, tests, and final exam. Your overall course grade is determined by your performance in each grading category using the following weights:

Grading Categories

Category	Weight
Attendance and Contributions to the Class Discussion	5%
Homework	15%
Quizzes	5%
3 Tests (each 20%)	60%
Final Exam	15%

Your final score is translated to a letter grade using the following grading scale:



Attendance: Attendance is mandatory and is a part of your grade. If you are going to be absent from a class, contact the instructor immediately. **Unapproved** absences will affect your grade. If a student is more than 15 minutes late, it counts as an absence. It is the student’s responsibility to acquire notes required to submit his/her assignments from classmates and complete/submit coursework by the due date. If any student is unclear about submitting their assignment, please contact the instructor. You should turn in your assignments through Canvas.

- Any unapproved absence will have -10 points penalty out of 100 points.
- During the class, **cell phones are to be kept in a secure location and not on the desktop**. Secure locations include keeping the phone in your pocket, purse, bag, coat, etc.

Category	Definition	Attendance Record
Tardy	Up to 15 minutes late	0.5 absence
Absent	More than 15 Minutes late or not present at all	1 absence

Homework: Homework assignments will be posted on Canvas and all assignments must be turned in through Canvas. Late submissions will result in a reduction of your grade for that assignment based on the table below.

Condition	Grade Reduction
<1 day late assignment	40% reduction
More than 1-day late assignment	100% reduction (zero grade)

- Grace Pass: Students will have TWO Grace Passes for the semester. A Grace Pass applies to homework assignments only. A Grace Pass provides a no-penalty 48-hour extension of the initial deadline for a homework assignment. Grace Passes can be used at any time or not at all; it is up to the student. To use a Grace Pass, a student must attach a Grace Pass page to the front of the homework assignment (the Grace Pass page can be found on Canvas).
- Homework Requirements:
 - All homework assignments must be handwritten on engineering computation paper. An engineering computation paper template will be available on Canvas.
 - A typed title page (see template on Canvas) is required for each homework assignment.
 - You need to turn in your homework assignment through Canvas.
 - Every page must have a **page number** in the top right corner (excluding the title page).
 - All problems should be divided into *Given* and *Solution* sections.
 - Work from left to right, top to bottom, on each page.
 - All sketches should be drawn to scale using straight edges.
 - Draw a box around the final answers.
 - Use one side of the paper only.
 - Always show units for final results (**VERY IMPORTANT**).
 - Write legibly and be neat and organized. If the grader cannot read your work, you will not receive credit for your work.

Failure to do any of these requirements will result in a deduction of points from that assignment.

- **Quizzes:** There will be several quizzes during the semester. Some quizzes will be unannounced, but most will be announced during the preceding class. Quizzes cannot be made up. If you are absent and miss a quiz, you will receive a zero on that quiz. If you are late to class and miss a quiz, you will receive a zero on that quiz.
- **Tests and Final Exams:** Tests and Final exams cannot be missed. If there is verifiable proof of a known scheduling conflict, students should inform the instructor at least two weeks before the exam to make prior arrangements to take the test at a different date/time. If the instructor suspects or finds any illegitimacy/dishonesty, then a grade of zero will be assigned for the exam.
- **Extra Credit:** There may be extra credit opportunities during the semester, such as in-class engagement opportunities.

Table: Class Schedule

Week	Topic	Chapter
1	Review of Syllabus, Review of Statics, Normal and Shear Stresses	1
2	Normal And Shear Stresses, Allowable Stress	2
3	Strain, Material Properties	2, 3
Test #1		
4	Axial Load	4
5	Thermal Stress	4
6	Torsion	5
Test #2		
7	Torsion, Internal Shear and Moment Equations/Diagrams	6
8	Spring Break	-
9	Flexural Stress, Transverse Shear and Shear Formula	7
10	Transverse Shear and Shear Formula	7
Test #3		
11	Column, Combined Loading	13, 8
12	Combined Loading, Thin-Walled Pressure Vessel	8
13	Stress Transformation	9
14	Stress Transformation, Beam Deflections	9, 12
15	Beam Deflections, Study Session	12
Final Exam		

Academic Integrity: The University of Memphis expects all students to behave honestly. The [Student Code of Rights and Responsibilities](#) explains what constitutes a violation of our Academic Integrity policy. For more information, please see the Office of Student Accountability's website: <https://www.memphis.edu/osa/>. Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students who violate the academic misconduct policy, either directly or indirectly, through participation or assistance, are immediately responsible to the class instructor and other possible disciplinary sanctions that may be imposed through the regular institutional disciplinary procedures.

Examples of academic dishonesty include, but are not limited to:

- Cheating – A student uses a smart phone to access the internet while taking a quiz.
- Copyright infringement – A student uses a photograph found on the internet in a presentation without obtaining permission from the photographer.
- Deception – A student gives a dishonest excuse when requesting a deadline extension.
- Denying access to information or material – A student makes library or shared resource material unavailable to others by deliberately misplacing those resources.
- Fabrication – A student invents data in academic work.
- Facilitating academic misconduct – A student knowingly allows a portion of their work to be used by another student.
- Plagiarism – A student represents the ideas of another in a paper without citing and referencing the work, or a student turns in the same or nearly the same assignment for credit in more than one class.
- Sabotage – A student prevents others from completing their work by opening a window to affect a temperature-controlled experiment.
- Unauthorized collaboration – A student works with other students on a paper without the specific permission of the instructor.

Classroom Behavior: Students should be aware of the [Student Code of Rights and Responsibilities](#), which describes examples of unacceptable classroom behavior. Disruptive classroom behavior will not be tolerated. Instructors are empowered to remove students from class and refer behaviors for sanctioning to the Office of Student Accountability.

Equity, Inclusion, and Accommodations: Our class respects all forms of diversity. The University of Memphis embraces the diversity of students, faculty, and staff, honors the inherent dignity of each individual, and welcomes their unique perspectives, behaviors, and worldviews. In this course, people of all races, religions, national origins, sexual orientations, ethnicities, genders and gender identities, cognitive, physical, and behavioral abilities, socioeconomic backgrounds, regions, immigrant statuses, military or veteran statuses, size and/or shapes are strongly encouraged to share their rich array of perspectives and experiences. Course content and campus discussions will heighten your awareness of each other's individual and intersecting identities. In accordance with [UofM Policy GE2004](#), the University will ensure students receive consistent and fair treatment and affirmation of the University's commitment to diversity. The University prohibits discrimination and harassment based on protected characteristics as stated in [UofM Policy GE2030](#).

Please see the instructor if you need accommodations for a disability or to fulfill cultural or religious obligations. Students requesting accommodations should contact [Disability Resources for Students](#) to register and learn about the services available to support their learning. Students with disabilities are encouraged to speak with us privately about academic and classroom accommodations. It is strongly encouraged that you register with Disability Resources for Students (DRS) to determine appropriate academic accommodations. Disability Resources for Students is located at 110 Wilder Tower, their phone number is (901) 678-2880 (V/TTY), their email is drs@memphis.edu, and their website is <https://www.memphis.edu/drs/>. Disability Resources for Students coordinates all accommodations for students with disabilities.

Qualified students with disabilities will be provided reasonable and necessary academic accommodations if determined eligible by the appropriate Disability Resources for Students staff at the University. Before granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility for specific accommodations from the Disability Resources for Students staff at the University of Memphis. It is the student's responsibility to initiate contact with University's Disability Resources for Students staff and follow the established procedures for sending the accommodation notice to the instructor.

Mental Health: As a student, you can sometimes feel overwhelmed, lost, experience anxiety or depression, and struggle with relationship difficulties or diminished self-esteem. Mental health challenges can interfere with optimal academic performance. However, many of these issues can be effectively addressed with some help. If you find yourself struggling with your mental or physical health this semester, please feel free to approach me. I will try to be flexible and accommodating. As your instructor, I am not qualified to serve as a counselor, but UofM offers confidential counseling services on-campus and via telehealth that are available to students taking six or more credits at no cost. UofM Counseling Center is staffed by experienced professional psychologists, clinical social workers, and counselors who are attuned to the needs of college students. I strongly encourage you to take advantage of this valuable resource. To connect with Counseling Center services, please visit 211 & 214 Wilder Tower, or call 901.678.2068. To learn more about their services, visit their website at <https://www.memphis.edu/counseling>. In a crisis, please call 901.678.HELP (4357) to speak to the On-call counselor. Remember, getting help is an intelligent and courageous thing to do – for yourself and for those who care about you.

Title IX: The University of Memphis prohibits and will not tolerate sexual misconduct or gender-based discrimination of any kind.

Sexual Misconduct & Gender-Based Discrimination: The University is obligated to investigate sexual misconduct (including, but not limited to, sexual assault, sexual harassment, stalking, dating violence, and domestic violence). More information about Sexual Misconduct can be found in [UofM Policy GE2039](#).

Disclosure & Mandatory Reporting: If you disclose an incident of sexual misconduct to a faculty member, they have an obligation to report it to the University's Title IX Coordinator. "Disclosure" may include communication in-person, via email/phone/text message, or through in/out of class assignments.

Confidential Resources: If you wish to speak confidentially about an incident of sexual misconduct, please contact the [University of Memphis Counseling Center](#) (901-678-2068), the [University of Memphis Student Health Center](#) (901-678-2287), or the [Memphis/Shelby County Rape Crisis Center](#) (901-222-3950). If you want to learn more about sexual misconduct or report an incident, please visit <https://www.memphis.edu/oie/>.

Accommodations for Pregnant Students: Title IX prohibits the University from discriminating against a student based on pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of these conditions. Title IX also prohibits a school from applying any rule related to a student's parental, family, or marital status that treats students differently based on gender. Additional information can be found on the Office for Institutional Equity website: <https://www.memphis.edu/oie/resources/>.