



Syllabus
Southern Polytechnic College of Engineering and
Engineering Technology
Fall Semester 2025
ENGR 3131: Strength of Materials
Tadesse Wakjira

Course Description

The study and mathematical modeling of the mechanical behavior of materials under load. Emphasis will be on the elastic conditions of equilibrium, compatibility and material behavior. Includes study of stress and strain in columns, connectors, beams, eccentrically-loaded members, as well as an introduction to statically indeterminate members.

Course Information

Credit Hours: 3

Experiential Field Hours: 0

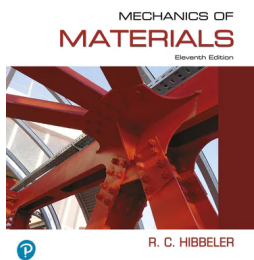
Prerequisites: ENGR 2214, MATH 2202

Course Learning Outcomes

- Calculate stress, strain, and deformation for basic structural elements subjected to axial, torsional, bending, and transverse loading.
- Utilize the stress-strain diagrams for determining the mechanical properties of various materials.

- Analyze simple indeterminate members subjected to axial loading by using equilibrium and compatibility equations.
- Draw shear and bending moment diagrams for beams.
- Calculate stresses resulting from combined loads.
- Use the stress transformation equations and Mohr's circle to calculate the principal stresses and the max in-plane shear stress for plane stress.

Course Materials



Mechanics of Materials

Subtitle: DayOne Access with Modified Mastering Engineering

ISBN: 9780137604982

Authors: R. C. Hibbeler

Publisher: Pearson

Publication Date: 2022

Edition: 11th

Required

Special Considerations: None

Evaluation and Grading Information

GRADING SCALE:

A: 90% - 100%

B: 80% - 89%

C: 70% - 79%

D: 60% - 69%

F: 0% - 59%

I will round up grades if they are 0.5 or higher; for example, an 89.6 is an A, but 79.2 is a C.

Course Policies

Calculator Policy: Only the calculators listed below will be allowed on the Final Exam:

- **Casio:** All fx-115 and fx-991 (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.)

Attendance Policy: You are expected to be in class for each class meeting. If you have an emergency, it is your responsibility to contact the instructor and advise the instructor of the situation. It is also your responsibility to get any notes or information from other students. Absences and/or consistent tardiness will adversely affect your grade. Class participation is important and will also be reflected in your grade.

Policy on the Usage of Artificial Intelligence

AI Use Prohibited: You are expected to generate your own work in this class. When you submit any kind of work, you are asserting that you have created it completely on your own unless you indicate otherwise using quotation marks and proper citation for the source(s) you used to help you. Submitting content that has been generated by someone other than you, or that was created or assisted by an AI generative tool is cheating and constitutes a violation of the KSU Code of Academic Integrity.

Institutional Policies

Academic Integrity Statement

Every KSU student is responsible for upholding the provisions of the [Student Code of Conduct](#), as published in the Undergraduate and Graduate Catalogs. Section 5c of the Student Code of Conduct addresses the university’s policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established

procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an “informal” resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct’s minimum one semester suspension requirement.

KSU Disruption of Campus Life policy

All students are responsible for knowing the information, policies and procedures outlined in the Kennesaw State University Codes of Conduct. [Student Conduct and Academic Integrity \(SCAI\)](#) includes: the general Student Code of Conduct, the Residential Code of Conduct, and the Code of Academic Integrity.

KSU Web Accessibility policy statement

Federal law Section 508 Subsection 1194.22 of the Rehabilitation Act and the Board of Regents (BOR) of the University System of Georgia (USG) Web Accessibility Guidelines require that all web content meet the federal government’s accessibility guidelines. As such, KSU complies with USG guidelines.

University accessibility assistance is provided by several offices as noted below. Staff in these offices work to accommodate requests for access or assistance with access as soon as possible in order to either accommodate the request or identify an effective alternative for the requester.

Request for Office Contact Number Contact Email

- Student Support Services Student Disability Services 470-578-2666
sds@kennesaw.edu
- Student Technology Assistance Student Technology Assistance
- University Information Technology Services 470-578-3555
studenthelpdesk@kennesaw.edu
- Third Party Technology Assistance University Information Technology Services
470-578-6999 service@kennesaw.edu

KSU Reasonable Accommodations Policy

Students with qualifying disabilities under the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act who require “reasonable accommodation(s)” to complete the course may request those from Office of Student Disability Services. Students requiring such accommodations are required to work with the University’s

Office of Student Disability Services rather than engaging in this discussion with individual faculty members or academic departments. If, after reviewing the course syllabus, a student anticipates or should have anticipated a need for accommodation, he or she must submit documentation requesting an accommodation and permitting time for a determination prior to submitting assignments or taking course quizzes or exams. Students may not request retroactive accommodation for needs that were or should have been foreseeable. Students should contact the office as soon as possible in the term for which they are seeking accommodations. Student Disability Services is located in the Carmichael Student Center in Suite 267 on the Kennesaw campus or Building A in Suite 160G on the Marietta campus. Please visit the [Student Disability Services \(SDS\) website](#) for more information, or call the office at 470-578-2666 (Kennesaw campus) or 470-578-9111 (Marietta campus).

KSU Enrollment Management/Course Attendance Policy

Students are solely responsible for managing their enrollment status in a class; nonattendance does not constitute a withdrawal.

Copyright Law

It is the responsibility of KSU faculty and students to respect the rights of copyright holders and complying with copyright law. The University System of Georgia recognizes that the exclusive rights of copyright holders are balanced by limitations on those rights under federal copyright law, including the right to make a fair use of copyrighted materials and the right to perform or display works in the course of face-to-face teaching activities.

The University System of Georgia facilitates compliance with copyright law and, where appropriate, the exercise in good faith of full fair use rights by faculty and staff in teaching, research, and service activities. The University System of Georgia ensure compliance with copyright law in the following ways.

1. The USG informs and educates students, faculty, and staff about copyright law, including the limited exclusive rights of copyright holders as set forth in 17 U.S.C. § 106, the application of the four fair use factors in 17 U.S.C. § 107, and other copyright exceptions.
2. The USG develops and makes available tools and resources for faculty and staff to assist in determining copyright status and ownership and determining whether use of a work in a specific situation would be a fair use and, therefore, not an infringement under copyright law;

3. The USG facilitates use of materials currently licensed by the University System of Georgia and provides information on licensing of third-party materials by the University System; and
4. The USG identifies individuals at the University System and member institutions who can counsel faculty and staff regarding application of copyright law.

Protecting Students' Privacy (FERPA)

Students have certain rights to privacy. These rights are mandated by federal policy. [The Student Handbook](#) contains information regarding Rights Pertaining to Student Records, and FERPA specific details are available on the [Registrar's website](#).

A key requirement of the formal evaluation process is the protection of individual privacy rights concerning educational grading. The University's online learning system and email system is designed to prevent unauthorized individuals from gaining access to sensitive information or information protected by federal or state law. Consequently, faculty and students are strongly encouraged to only communicate regarding course matters through the University's designated technology learning system.

Information should not be made public in any way in which a student's grades, social security number, or other personal information may be identified. Grade information may be shared with members of the KSU community who also have a legitimate educational interest in student success (e.g. academic advisors or members of the Behavioral Response Team). Faculty may be asked to provide early alert information if there is a concern that a student is at risk, academically or otherwise.

KSU Sexual Misconduct Policy

In accordance with federal and state law including, Title IX of the Education Amendments of 1972 ("Title IX") and Title VII of the Civil Rights Act of 1964 (Title VII), the University System of Georgia (USG), including Kennesaw State University, prohibits discrimination on the basis of sex in any of its education programs or activities or in employment. The USG is committed to ensuring the highest ethical conduct of the members of its community by promoting a safe learning and working environment. To that end, Kennesaw State University follows USG Board of Regents Policy Manual, Section 6.7. [Visit Title IX](#).

Withdrawal from Classes

A student who officially withdraws from a course by the end of the last day to withdraw

without academic penalty will receive a grade of “W” and receive no credit.

A student will receive a refund only when the student withdraws from ALL courses for the applicable semester and only by the schedule outlined in the University refund policy found in the Tuition, Expenses, & Financial Aid section of the undergraduate and graduate university catalogs.

Students should be aware that a reduction in their hours might result in the loss of full-time student status and thus affect their financial aid, scholarships, athletic and ticket eligibility, University housing accommodations, use of University resources and access to University facilities, visa for international students, and Veterans Educational Benefits. Students should contact the appropriate office and their academic advisor with questions about the impact of their withdrawal from a course before initiating a withdrawal. Veterans and dependents of veterans who receive educational benefits must notify the Veterans Education Benefits Area in the Office of the Registrar of any course load reductions.

Hardship Withdrawals

If a student experiences significant personal hardship (e.g., medical or family emergency, prolonged illness), the Dean of Students can approve a hardship withdrawal from all courses in the term for which the student is currently registered. In the case of an approved hardship withdrawal from all courses, the Registrar will assign grades of “W” for those classes. The deadline for final approval of a hardship withdrawal by the Dean of Students is the last day of class for which the hardship withdrawal is sought. If the hardship withdrawal process is not complete by the last day of class for which the hardship withdrawal is sought, a student must appeal for a retroactive hardship withdrawal from the Academic Standing Committee.

Appeals for retroactive hardship withdrawals must be directed to the Academic Standing Committee. Retroactive hardship withdrawals are rarely granted if it has been more than one year since the last day of class for which the withdrawal is sought. Extraordinary justification must be shown. In the case of approved retroactive hardship withdrawals, the Registrar will assign a grade of “W.”

University Initiated Withdrawals

If a student is suspended by the Office of Student Conduct following a violation of the University’s Code of Conduct not related to academic dishonesty, the Office of Student

Conduct may facilitate a University-initiated withdrawal from courses for which a student is registered for the term. The Registrar will assign grades of “W” for those classes.

Military Withdrawals

A student will receive a “WM” symbol for all courses and a full refund of tuition and mandatory fees and a pro rata refund of other fees for military and other service, as defined by [BOR Policy Manual, Section 7.3.5.3](#) To request a military withdrawal, the student must submit a copy of official orders to the Office of the Registrar.

Academic Feedback

Institutional Chief Academic Officers will encourage faculty to clarify for students, at the beginning of each course, the basis on which grades will be determined and to provide timely academic feedback as the course progresses ([BOR Academic and Student Handbook Policy 2.18](#))

Netiquette: Communication Courtesy

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats (link forthcoming).

Modified Operations Policy

Kennesaw State University is committed to remaining open and continuing full operations, including class schedules, whenever possible. The Office of the President, in consultation with the KSU Office of Emergency Management and other officials, will determine when an emergency impacts KSU's normal operations. When the University is closed due to an emergency, all classes will be canceled, and non-essential personnel will not be expected to work.

When the University shifts to modified operations, Cabinet members, in consultation with the Office of the President or designee and the Office of Emergency Management, will be responsible for determining appropriate operational continuity for their divisions. This may include remote work. During modified operations, each faculty member will be responsible for instructional continuity for their classes. To ensure instructional continuity, all Academic Colleges and Departments are expected to maintain and regularly update instructional continuity plans. All syllabi should also include an instructional continuity plan statement specific to that course.

During a weather event or other emergency, those commuting to campus should exercise their best judgment when determining travel options. If the University remains open and an employee elects not to report to work, the employee will be required to use their accrued vacation time.

The University will announce campus closures and delayed schedules in several ways. The cell phone number on file with the university will automatically receive KSU Alerts, so make sure your information in OwlExpress is accurate at all times. An email will also be sent to your university account.

In addition, announcements will be made by a notice on the [Kennesaw State University home page](#).

Course Delivery

KSU may shift the method of course delivery at any time during the semester in compliance with University System of Georgia health and safety guidelines. In this case, alternate teaching modalities that may be adopted include hyflex, hybrid, synchronous online, or asynchronous online instruction. Please refer to the Instructional Continuity statement included in each course syllabus for specific plans.

University Sponsored Academic Resources

University Academic Resources

- [Academic Tutoring Services](#)
- [Disability Resources](#)
- [Division of Organizational Effectiveness, Leadership and Institutional Development](#)
- [Library](#)
- [Supplemental Instruction](#)
- [The Writing Center](#)
- [Virtual Smart Center](#)
- [Academic Advising](#)

Student Resources

- [Student Support Links for Online Learning](#)

- [Student Success Resources](#)
- [Financial Aid](#)
- [Office of the Registrar](#)
- [Office of the Bursar](#)

Grade Appeals and Student Complaints

KSU desires to resolve student grievances, complaints and concerns in an expeditious, fair and amicable manner. The [complaints and concerns webpage](#) was developed to assist current and prospective students in submitting complaints and appeals, and to direct them to the most effective venue for accurate information and resolution. The resources on the page will direct students to the specific venue to appropriately address the related student complaint.

Complaints for online students are resolved following the same general procedures for students who attend classes on campus. However, for any process that requires a student appear in person, the university may make other arrangements. For processes that cannot be completed via telephone, email, or written correspondence, the university may set up a two-way video-conference site in place of a meeting on the KSU campus.

Technology Resources

For issues with technical difficulties, please contact the Student Helpdesk:

[Fill out a service form](#)

Email: studenthelpdesk@kennesaw.edu

Call 470-578-3555

[New Students Technology Services](#)- Steps that will help you meet the technological requirements of the University.

Any request for make-ups due to technical issues MUST be accompanied by the ticket number received from UITs when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Additional Technology Resources:

- [1:1 Training Session](#)
- [Computer Labs](#)
- [Browser Checker](#)
- [My KSU Site for Accessing Online Tools](#)
- [USG Desire2Learn Help Center](#)
- [D2L Training Options & Resources for Students](#)
- [Owltrain Online Courses](#)
- [Check Service Outages](#)

Student Support and Wellness Resources

YOU MATTER at KSU, and your well-being is a priority to us. College is exciting, but it can cause students to experience stress and feel overwhelmed. Through counseling, health education, addiction and recovery support, fitness and recreation activities, and access to basic needs, Wellbeing@KSU is here to help you do well and be well.

- [Department of Career Planning & Development](#)
- [Student Health Clinic](#)
- [Military and Veteran Services](#)