

COE 3001 Syllabus

Mechanics of Deformable Bodies COE 3001, Section I, 3 Credits

Spring 2026

Instructor Information

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General Course Information

Description

Stress and strain analysis applied to beams, vessels, pipes, and combined loading; stress and strain transformations; beam deflection; column buckling.

Course Learning Outcomes

Develop an ability to visualize and understand the fundamental behavior of structures and solids

Develop an understanding of assumptions and idealizations commonly used for analysis of structures and solids

Learn methods of computing stresses in several types of structural and machine components

Learn the fundamental approach for determining internal forces and stresses in indeterminate structures: use of equations of equilibrium, force-temperature-deformation relations, and expressions for the geometry of the deformations

Develop a basic knowledge of approaches to design of structural and machine components

Required Course Materials

Mechanics of Materials, 9th Edition, James M. Gere and Barry J. Goodno, Cengage, available at Georgia Tech Barnes and Noble Bookstore

Grading Policy:

Quiz (single problem review of statics): 5%; Tests 20%, 20%, 20%; Final 30%; Homework 5%.

A>90; B>80; C>70; D>60

Assignments

- Quiz, 5%
- Test 1, 20%
- Test 2, 20%
- Test 3, 20%
- Homework 5%
- Final Exam 30%

Description of Graded Components

The quiz and all exams are in class and closed book and notes. Equation sheet provided

Course Policies

Attendance and/or Participation

This will be an active classroom, where you will be expected to participate. I have noticed a drastic difference in the exam performance between students who regularly attend class and those who don't. Therefore, I will count attendance in determining your final grade.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review [Georgia Tech's Honor Code](#) and the student [Code of Conduct](#).

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Core IMPACTS

[Core IMPACTS](#) is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus

statement about the Core area and associated [career competencies](#). [This resource](#) developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. [The Student-Faculty Expectations](#) articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Pre- &/or Co-Requisites

COE 2001 Statics Prerequisite and Math 2552 Ordinary Differential Equations Corequisite.

Collaboration, Group Work, and Use of Generative AI

You are allowed to work in groups on all homework and out-of-class assignments (and you may use my solutions), but any work you turn in must be written in your own hand. In-class tests and exams are to be your own work. All in-class tests and exams will be closed book and notes, but I will provide an equation sheet.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

Late homework will be penalized accordingly. Make-up exams are given for illness, approved Institute activities or religious observances.