

COE 3001 Syllabus

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

Fall 2026

Instructor Information

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General Course Information

Description

COE 3001 is an undergraduate course on the mechanics of deformable solids. The primary goal of the course is to provide students with the beginnings of the understanding and skills required to analyze stress, strain, stress-strain relations, deflections, and failure in deformable solids. While analytical treatments are emphasized in this first course, it serves as a necessary launching point for further advanced courses.

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, by James M. Gere & Barry J. Goodno, 9th Ed, Cengage Learning. (*required*)

Mechanics of Materials, by R. C. Hibbeler, 9th Ed, Pearson, Prentice Hall. (*recommended*)

Mechanics of Materials, by F. B. Beer, E. R. Johnston, J. T. DeWolf & D. F. Mazurek, 7th Ed, McGraw-Hill. (*recommended*)

Mechanics of Materials, by R. R. Craig, 3rd Ed, John Wiley & Sons. (*recommended*)

Note: Homework will not be given through textbook problems. Reading assignment will be based on the required textbook. Buying the required textbook is not necessary as long as you have other access to it, because reading textbook is required. Different editions of the textbook will not make much difference for this class.)

Grading Policy:

- Homework: 20%
- Participation: 5%
- Exam I: 15% (75 min, in lecture time)
- Exam II: 15% (75 min, in lecture time)
- Exam III: 15% (75 min, in lecture time)
- Final exam: 30% (170 min, in exam week)

A: ≥ 90 , B: [75-90), C: [65-75), D: [55-65), F: < 55

Description of Graded Components

All exams are in class and closed book and notes. Equation sheet provided.

There will be 7 homework assignments. One assignment with lowest grades will be waived. This waiver is used for giving you an excuse for unforeseen conditions that may impact your homework performance.

Course Policies

Attendance and/or Participation

1. Attendance will be checked during almost all class days through TurningPoint.
2. 2 of the checked attendance will be waived. These waivers are designed for giving you an excuse for unforeseen conditions that may impact your class attendance.
3. Because of item 2, no other excuses will be taken.
4. The documented and justified excused absence will not be counted as absence and will not be counted toward to the raincheck in item 2.

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

1. MATH 2403 or MATH 2552 or MATH 2413
2. COE 2001 or CEE 2020 or ME 2211 or AE 2120

Expectations

1. Discussions on homework and class notes are encouraged. However, exchange of written information in completing assignments is not permitted;

2. No late homework will be accepted, except for delays due to serious illness or other documented difficulties (verification letter from Office of VP or Dean of Students is required). Whenever possible, advance request for extension is expected. You can email the request to me and provide documentation when handing in the late HW;
3. Homework will be submitted online;
4. No make-up exams will be given, except for serious illness or other documented difficulties (verification letter from Office of VP or Dean of Students is required);
5. Exams will be during lecture time.
6. Exam problems will be discussed in class; however, exam papers will not be returned to students. Dedicated viewing times, or individual appointments upon request, will be announced for students to review their exams.