

# COE 3001 – DEFBODs – Summer 2026

Oxford Program, Room TBD, Time TBD

Version 1, 19 Mar 2026

## **Instructor**

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Office: Kanto Gakuin (KG) West

Office Hours: M-Th, 3:00 pm – 4:00 pm or by appointment

## **Importance of this Course**

This is one of the most important courses you will take as a future engineer. Designing a useful, safe, and efficient structure or machine requires an engineer who has a mastery of the theory and application of mechanics of deformable bodies (DEFBODs).

## **My Expectations**

- Conduct yourself as a future professional. Let me help you be a great contributor and leader in your future profession.
- Come to class ready to participate and learn. Mobile devices must be silenced and out of sight.
- Bring your curiosity with you to class and ask questions. If I don't know the answer, I'll find out.
- Submit work that is neat, complete, and easy to follow. Include sketches as necessary to communicate your work. Ensure your writing is large enough for me to read.

## **Course Objectives**

- Visualize and understand the fundamental behavior of structures and solid objects.
- Develop an understanding of the assumptions and idealizations commonly used to analyze structures and solid objects.
- Learn methods of computing stresses in several types of structural and machine components to include axial members, beams, torsional members, pressure vessels and compression members.
- 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 deformations.
- Develop a basic knowledge of approaches to design structural and machine components.

## **Pre-requisites/Co-requisites**

COE 2001 and MATH 2403, 2413 or 24X3.

## **Course Materials**

- **Textbook:** Mechanics of Materials, Enhanced 9<sup>th</sup> Edition, James M. Gere and Barry J. Goodno, Cengage.
- **Supplemental:** I may provide additional materials for your use during the course.

## **Website**

The website for this course is <https://canvas.gatech.edu>. Students are expected to check the website regularly for announcements and are responsible for the material posted. Example problems and material from lectures are posted regularly. I own the copyright of the course materials I create for this course (exams, examples, slides) and as a result, students are not allowed to reproduce, distribute or publicly post these course materials without my explicit written permission.

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### Grades

Your final grade will be determined based on the following graded events:

- Class Attendance and Participation (10%)
- Weekly Quizzes (40%)
- Two-minute Presentation (5%)
- Mid-term Exam (15%)
- Final Exam (30%)

Letter grades will be assigned based on the following rubric:

- A 90-100% Excellent ability to apply DEFBODs to solve problems
- B 80-89.9% Proficient ability to apply DEFBODs to solve problems
- C 70-79.9% Novice ability to apply DEFBODs; Consider academic assistance
- D 60-69.9% Potential barriers to learning; Make appointment with instructor
- F <60% Significant barriers to learning; Make appointment with instructor

### Graded Event Descriptions

- Class Attendance and Participation - This will be an active classroom, where I expect you to come to class prepared to learn and participate. There will be various in-class activities that will count towards the class attendance and participation grade.
- Weekly Quizzes – There will be a total of five weekly quizzes to help students assess their understanding of the material covered during the week. The weekly quizzes will be closed-book and closed-notes.
- Two-minute Presentation – This will be an individual assignment you will prepare for out-of-class based on a topic of your choosing related to the application of DEFBODs in everyday life. The topic may be a structure or machine of interest you see while traveling or something of interest you see online. You will submit two PowerPoint slides in advance of your presentation that you will present to the class. You will sign-up for a presentation date/time early in the course.
- Mid-term and Final Exams – These exams will be comprehensive and assess student understanding of course material up through the exam. The exams will be closed-book, but you will be provided an equation reference sheet.

### Course Policies

- Attendance
  - Students are REQUIRED to attend every class. **TWO** unexcused absences will result in a 5% reduction of the student's grade; **more than TWO** will result in a one letter grade reduction. Given the short amount of time available for the course during the Oxford Study Abroad Program, it is imperative that each student attend every class.
  - Please notify the instructor of any planned absences at least 48 hours before the day of the absence. **Planned absences must be approved by the instructor or program director.**
  - Excused absences must be documented. Please refer to the following website for more information: <https://studentlife.gatech.edu/request-assistance>
  - In the event of illness and required quarantine or isolation, best attempts will be made to make lectures available for students.

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- Late Policy - In the professional world, those who submit requirements late will likely develop a poor reputation and may lose the opportunity themselves or for their company to compete for or take part in an important project. I expect you to submit course requirements in accordance with the published submission date and time. If conditions arise that will not allow you to submit your work on-time, contact me at least 24 hours in advance. For those who submit work late without prior approval, the penalty will be 50% for up to 24 hours. Work submitted after 24 hours will receive zero credit.
- Honor Code – As a member of the Georgia Tech community you understand and accept the responsibility of upholding the Academic Honor Code at all times. Any violations will be handled according to the provisions of the Honor Code found at: <http://www.honor.gatech.edu/>.
- Accommodations - Georgia Tech has policies regarding disability accommodation, which are administered through The Office of Disability Services. <http://disabilityservices.gatech.edu/>. For students with disabilities, please contact this office to request classroom accommodations. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs. Reminders well in advance of special needs are appreciated and are your responsibility.
- Recordings of Class Sessions and Required Permissions - Classes may not be recorded by students without the express consent of the instructor unless it is pursuant to an accommodation granted by the Office of Disability services. Class recordings, lectures, presentations, and other materials posted on Canvas are for the sole purpose of educating the students currently enrolled in the course. Students may not record or share the materials or recordings, including screen capturing or automated bots, unless the instructor gives permission. Digitally proctored exams may require students to engage the video camera, but those recordings will not be shared with or disclosed to others without consent unless legally permitted. For classes where participation is voluntary, students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. For classes requiring class participation, if students are identifiable by their names, facial images, voices, and/ or comments, written consent must be obtained before sharing the recording with persons outside of currently enrolled students in the class.
- Diversity Statement - I consider the classroom environment to be a place where you will be treated with dignity and respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.