COE 2001 A – Statics (2-0-2) **Late Short Summer 2026, MW 12:30-3:15 pm, East Architecture 309**

Prerequisites: Math 1502 and Physics 2211 (or equivalent)

REQUIRED Text: Statics 9e Edition with WileyPLUS
by James L. Meriam, L. G. Kraige, Jeffrey N. Bolton

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Office hours: 3:45-5:15 pm on Wednesdays & Fridays

Teaching Assistant: TBA

Outline (Topics/textbook sections are reading assignments.)

- **Introduction** (1)
  - Components of a vector (e.g., Force) (1/3)
  - Cross and Dot Products (Appendix C7)
- **Force Systems: Moments, Couples, Resultants** (2)
  - 2D force systems: Moments, Couples, Resultants
  - 3D force systems: Moments, Couples, Resultants
- **Equilibrium of Rigid Bodies** (3)
  - Free-Body Diagrams
  - Equilibrium in 2D and 3D
- **2D Structural Applications** (4/1-4; 4/6-7)
  - Plane Trusses & Frames
- **Centroids and Distributed Forces** (5/1-5; 5/9)
  - Centroids of Composite Parts
  - Distributed Loads (e.g., fluid statics)
- **Beams: External & Internal Effects** (5/6-7)
  - Shear Force and Bending Moment Diagrams
- **Friction** (6)

Course Outcomes:

Outcome 1: Students will understand the basic principles underlying the equilibrium of rigid bodies in planar and 3D spaces.

1.1 Students will demonstrate an ability to apply fundamental rigid-body mechanics concepts to set up and solve engineering mechanics problems such as equilibrium and force-balance problems for single and assemblies of rigid bodies.

Outcome 2: Students will learn to identify, formulate, and solve engineering problems in rigid-body statics.

2.1 Students will demonstrate the ability to isolate rigid bodies and to draw clear and appropriate free body diagrams.

2.2 Students will demonstrate an ability to apply skills in mathematics and physics to solve engineering mechanics problems.

2.3 Students will demonstrate an ability to identify appropriate supports and static knowns and unknowns, in both 2D and 3D structures.

2.4 Students will demonstrate that they can apply the appropriate principles referred to in Objective 1 to the solution of problems.

Test Dates:

7/13	(M)	Exam #1 @ 12:30 – 1:45 pm (lecture resumes at 1:55 pm)
7/27	(M)	Exam #2 @ 12:30 – 1:45 pm (lecture resumes at 1:55 pm)
8/6	(Th)	Final Exam (cumulative) @ 11:20-1:50 pm (2.5 hr)

Check official calendar for updates on final exam period. **Final Exam is 2.5 hours long**.

Coverage for Exam #1 and Exam #2 is topics from previous test to the previous lecture unless otherwise stated in class. *Questions on test coverage will be answered in class only – not via emails.* FINAL EXAM is comprehensive (includes all course contents).

Grading: 22.5% homework (~5 assignments), 70% exams (Exam #1, Exam #2 and final exam),* 7.5% attendance and participation.†

Grading Scheme (Grading will be no tougher than this)**: A 90-100; B 80- 89; C 70-79; D 60-69**

Canvas is used to provide some course information. Sample exams may be provided on Canvas. Sample exams are for your information only and they may not correlate with actual test questions that you will see. Pls. note that if you understand and can work homework problems, you should do fine in this class.

Homework rules: Homework will be assigned via WileyPLUS, and you must submit your answers in WileyPLUS. Due to the nature of this course, for most problems you must first work out the solutions on paper. Because it is time consuming to submit or create drawings in WileyPLUS, I generally do not require you to submit drawing as part of the answers. However, you must use drawings for most questions to arrive at the answers; drawings are required and graded in exams. Suggested procedures:

1. Start each problem with a new sheet of paper, and label it with problem set number, question number, and date.
2. Must show details – no credit is given in exams even if you provide the correct answer but fail to show key steps. For example, you should
    - Draw a free body diagram of the structure using a ruler with all dimensions & units clearly labeled
    - Identify solution goal and list all unknowns at the beginning of your solution
    - Annotate all steps of your solution procedure linearly
    - Box final answers and **show units** (points are deducted in homework and exams if units are incorrect or missing)
3. Submit your answer in WileyPLUS.
4. Late homework is not accepted by WileyPLUS.
5. You will have access to your homework grade and solutions after your submission.

Help! I am doing poorly in your class. What can I do to do better?

- Come see me during my office hours, or request an appointment (by EMAIL only, please, to avoid misunderstandings!)

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* Exam grade = Exam#1 + Exam#2 + 2*Final – Minimum(Exam#1, Exam#2, Final). This formula assumes that you should take all three exams. If you miss an exam (meaning you receive zero for that particular exam), you will not be allowed to drop the lowest exam grade, and whatever you receive in the 3 exams will be used to calculate the exam grade (70% of course grade).

† Class attendance is required and enforced. Students are not only expected to attend class, but to participate. In total, 2 occurrences of absence are forgiven during the late summer term. Participation includes asking questions, engaging in class discussion, and working on examples during lectures. Attendance polls will be taken throughout the summer term.

- Review the examples covered during lectures
- Work all sample exams - see Canvas!
- Receive Statics tutoring from on-campus service:
  - Tutoring & Academic Support, Office of Undergraduate Education: https://tutoring.gatech.edu/tutoring/ - COE 2001 is one of the courses supported by the tutoring program.

Academic Honor Code: Compliance with Georgia Tech's Academic Honor Code is expected; please read and understand this document (if you have not already done so). Per the Georgia Tech Honor Code Website http://policylibrary.gatech.edu/student-affairs/academic-honor-code
Plagiarizing is defined by Webster's as "to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source."
If caught plagiarizing, you will be dealt with according to the GT Academic Honor Code.

In this class you are allowed to work in groups on all homework and out of class assignments, but any work you turn in must be written in your own hand. All exams are to be your own work. All exams will be closed book/notes, but some equations may be provided.

INCLUDED IN EXAMS:

Read the information before starting the exam
This is a closed book exam. Only scientific calculators are allowed for calculations only; they cannot be used for storage/retrieval of information. Nothing else is permitted including scrap paper, notes, books, music players, tablets/iPads, cell phones, laptops, etc.

Write legibly, and document all steps of your work. Show all supporting work. Answers given without supporting work will receive zero credit. Box all final answers.

Sign the honor statement before turning in your test paper.

Honor statement: I have read and strictly abide by all conditions set forth in the Georgia Tech Honor Code and thus have neither given nor received assistance (other than from the instruction staff) of any type regarding the content of the problems in this examination, nor will I discuss the content with other students until the exam is graded and the grade is released. Signature: _____

Verification of Participation: This is required for all courses and all students.

Policy for Missed Exams
- You must notify the instructor, in writing, of any scheduling conflicts (for acceptable absences per GT attendance policy https://catalog.gatech.edu/rules/4/) with exams a MINIMUM of two weeks prior to scheduled exam dates and provide an Institute-issued documentation of excuse from Office of Student Life. In this case, the weight of the missed exam may be shifted to the final exam.
- The grade for the exam will be zero if you fail to show up to take the exam at the scheduled time without an Institute-issued documentation of excuse from the Office of Student Life.
- Office of Student Life may decline to issue a note of excuse when the situation is outside the guideline for acceptable excuses. Instead it may provide a form letter stating that the instructor has the discretion to handle the situation – this type of form letter does not count.

TEXTBOOK/WileyPLUS INFO provided by Wiley
https://learn.wileyplus.com/courses/185226

Students will need their course section ID and the attached registration flyer to register for the course.

- Course Section ID: B08181

Email: yao@gatech.edu

Course name: COE 2001A Statics (Summer 2025)

Course URL: https://learn.wileyplus.com/courses/185226

Student Technical Support 24/7:

Faculty are not trained to provide Technical support. Students with ANY registration and WileyPLUS questions should go to this Resource and Support tab:
https://wpsupport.wiley.com/s/