

## COE 2001 SECTION B: STATICS

Fall 2026, MW 9:30-10:20 am, Instructional Center Rm 105

**Instructor:** Professor Don White, Mason 5142B, [dwhite@ce.gatech.edu](mailto:dwhite@ce.gatech.edu)  
**Text:** Engineering Mechanics: Statics, 9<sup>th</sup> Edition, with *Wiley Plus* access code Meriam, Kraige, and Bolton, Wiley, 2018.

**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 statics. COE 2001 is all about learning concepts for the purpose of solving engineering problems in statics, and developing and honing your engineering problem solving skills.

### Course Objectives:

- Apply assumptions and idealizations commonly used to analyze structures and machines.
- Visualize and model the fundamental behavior of structures and machines.
- Deconstruct complex problems into smaller, simpler, components for static analysis.
- **Sketch free-body diagrams** of any object and solve the related equilibrium equations.
- Apply statics to analyze various engineering structures and machines (trusses, frames, beams, cables and pulleys) in everyday situations.

**Pre-requisites/Co-requisites:** MATH 1502, MATH 15X2, MATH 1512, or MATH 1552; PHYS 2211 or 2231

### 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.
- Bring your curiosity with you to class and ask questions. If the learning assistants and I do not know the answer, we will find it.
- Submit work that is neat, complete, and easy to follow. Include sketches as part of the setup of your solutions and to communicate your work. Use a straightedge for straight lines. Ensure your writing is large enough to read. Up to 50 % of the grade will be deducted from homework that fails to meet this standard.

**Course Format:** COE 2001B will be taught in a hybrid format with weekly scheduled activities:

- Due at the beginning of each week: View small asynchronous lecture snippets (typically 10 to 15 minutes) combined with assigned reading/study from the text *BEFORE* class, i.e., BE PREPARED FOR CLASS.
- All materials including lecture notes, recordings, and other materials will be posted on Canvas.
- The MW class sessions will be focused predominantly on problem solving (guided solutions and initial problems of the week for you to solve).
- Additional problem solving HW assignments will be due at the end of each week (due on Friday; final deadline without penalty on Sunday at midnight)

This is a residential course and students are required to participate at the class sessions in person. If you must miss a class, you are expected to let me know ahead of time so that alternative arrangements can be provided. You are allowed two unexcused absences with no penalty. The course follows the Institute policies for excused absences (<https://catalog.gatech.edu/rules/4/>).

**Student Illness:** During the semester, if you are ill you are requested to not attend class in-person. Separate arrangements will be provided for any documented illness.

**In-Class Work and Homework:** There will be approximately 20 assignments to be completed in-class. In addition, there will be 12 weekly HW assignments, due at the end of each of the main weeks of the semester,

as posted on the class schedule. Only your 18 highest-scoring in-class assignments will count toward your grade, and the in-class assignments will count roughly  $1/3$  of the HW assignments, total of  $[18(1/3) + 12] 20/18 = 20\%$  of your final grade. The concept with the streamed lecture snippets, reading assignments, and in-class and weekly HW assignments is to keep each assignment relatively small, providing for regular engagement and self-correction throughout the semester.

The in-class assignments will be due at the end of each class period by scan and pdf upload in most cases, and the HW assignments will be due by 11:59 pm on Friday evenings. You are allowed to submit for up to 48 hrs late (11:59 pm on Sunday) without penalty. There is zero credit for any *portions* of the HW submitted more than 48 hrs late.

In professional practice, 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 your HW in accordance with the required submission times. If conditions arise that will not allow you to submit your work on time, contact me at least 24 hours in advance.

The HW assignments will be assigned and graded for correctness using the WileyPlus online system. You will have an unlimited number of attempts for each problem to submit the correct answer (be sure to submit correct significant digits and units). The HW problems will be algorithmic, meaning each student will have unique input parameters; thus, solutions cannot be shared. You will also be required to upload a pdf scan of your written work supporting the answers you have provided in Wiley Plus. One half of each HW grade will be the WileyPlus scoring, and one half will be for the presentation of your work, regardless of the correctness of your answers.

**Quizzes and Final Exam:** There will be four in-person in-class quizzes during the semester as posted on the course schedule. The quizzes will be closed book and closed-note with a one-page (8.5x11") crib sheet and a calculator allowed. Any type of calculator that does *not* have internet access capability is allowed (e.g., no use of phones with calculator apps, etc.). You are required to submit your crib sheet with your written exam papers; all will be returned to you. Example quizzes will be posted at the Canvas site one week before the date of each quiz.

The final exam will be comprehensive and will occur on Dec. 5 from 8:00 to 10:50 in the class-session room. The final exam counts as 2.0 times any one of your quiz grades.

The lowest score from your four quizzes and final will be dropped. Therefore, if you are content with your final grade after completing the four quizzes, your four quizzes count as your final exam. If you participate only in the four quizzes, your four quiz grades will each count as 20% of your final grade (total of 80%). If you take the final, your three highest quiz grades will each count 16%, and the final exam will count as 32% of your final grade (again, a total of 80%).

**Grading:** The letter grade policy for COE 2001B is  $A \geq 85$ ,  $B \geq 75$ ,  $C \geq 65$ , and  $D \geq 55$ . I will lower the bar to pick you up a letter grade at the end of the semester, if you are close to the boundary and you have participated actively in the course throughout the semester)

**Accommodations:** Georgia Tech has policies regarding disability accommodation, which are administered through the [Office of Disability Services](#). For students with disabilities, please contact the disability services office to request course accommodations. Please also please see me as soon as possible to set up a time to discuss your learning needs. Reminders well in advance of special needs are appreciated and are your responsibility.

**Honor Code:** You are allowed (and encouraged) to work together with other students in the class on the in-class and HW assignments. You are also encouraged to ask questions to me and the learning assistants once you are thinking through your problem solutions. Copying from other students or from any other source (e.g., solution manuals, third-party services, or any other non-class provided resources) is a violation of the [Georgia Tech Honor Code](#) and will be treated as such.

Students are not allowed to discuss or collaborate on the quizzes or final exam with anyone and may not use any outside resources. Any student who is suspected of violating the course integrity policies will be referred to the [Office of Student Integrity](#).

**Student-Faculty Expectations Agreement:** This course will adhere to the [Student-Faculty Expectations Agreement](#) as specified in the Georgia Tech Catalog.

### COE 2001K Tentative Course Outline – Fall 2026

Wk	Date	Day	Topic	Text/WileyPlus Study Assignment	Streamed Lecture Viewing Assignment
1	8/18	M	Introduction, Forces (2D)	1/1 to 2/2, C/2, C/6, C/7, Tables D/2, D/5	
	8/20	W	Forces (2D)	2/3	2A-1 to 2A-3
	8/22	F	HW 1	1/1 to 2/3	
2	8/25	M	Moment and Couples (2D)	2/4 to 2/5	2A-4 to 2A-6
	8/27	W	Resultants (2D)	2/6	
	8/29	F	HW 2	2/4 to 2/6	
3	9/01	M	Labor Day		
	9/03	W	Free-Body Diagrams, Equilibrium (2D)	3/1 to 3/3	2A-7 & 2A-8, 3A-1 to 3A-3
	9/05	F	HW 3	2/6 & 3/1 to 3/3	
4	9/08	M	Rectangular Components (3D)	3/3 & 2/7	3A-4 & 3A-5, 2B-1
	9/10	W	Moment of a Force (3D)	2/8 & C/7	2B-2 & 2B-3
	9/12	F	HW 4	3/3, 2/7 & 2/8, & C/7	
5	9/15	M	Moment and Couples, Resultants (3D)	2/8, 2/9 excl. wrench	2B-4 to 2B-7
	9/17	W	Quiz 1 (2D Equilibrium)	1/1 to 3/3 (2D), C/2, C/6, C/7	
	9/20	F	HW 5	2/8 & 2/9, C/7	
6	9/22	M	Resultants (3D)	2/9 on wrench res.	2B-8 to 2B-10
	9/24	W	Free-Body Diagrams, Equilibrium (3D)	3/4	3B-1 to 3B-3
	9/26	F	HW 6	2/9 & 3/4	
7	9/29	M	Equilibrium (3D), 2D Trusses	4/1 to 4/3	3B-4, 4-1 to 4-4
	10/1	W	2D Trusses	4/4	4-5 to 4-6
	10/3	F	HW 7	3/4, 4/1 to 4/4	
8	10/6	M	Fall Break		
	10/8	W	Frames and Machines	4/6 & 4/7	4-8 to 4-10
9	10/13	M	Quiz 2 (3D Equilibrium)	2/7 to 2/9, 3/4, C/7	
	10/15	W	Frames and Machines	4/6	
	10/17	F	HW 8	4/6	
10	10/20	M	Centroid, Center of Mass, Integration	5/1 to 5/3	5-1 to 5-7
	10/22	W	Centroid, Center of Mass, Composite Bodies	5/4	5-8A to 5-11
	10/24	F	HW 9	5/1 to 5/4	
11	10/27	M	Beams, V & M Diagrams	5/6, SP 5/11 & 5/12	
	10/29	W	Quiz 3 (Trusses, Frames and Machines, Centroids)	4/1 to 4/4, 4/6	
	10/31	F	HW 10	5/6	
12	11/3	M	Beams, V & M Diagrams	5/7 & SP 5/14	5-12
	11/5	W	Beams, V & M Diagrams	5/7	5-13 to 5-16
	11/8	F	HW 11	5/7	
13	11/10	M	V & M Diagrams, Friction	6/1 to 6/3, SP 6/1 to 6/3	5-17 & 5-18, 6-1 to 6-4
	11/12	W	Friction I	6/1 to 6/3	6-5 & 6-6
	11/14	F	HW 12	5/7, 6/1 to 6/3	
14	11/17	M	Friction II	6/1 to 6/3	
	11/19	W	V & M Diagrams	5/7	
15	11/24	M	Quiz 4 (V&M Diagrams, Friction)	5/7 & 6/1 to 6/3	
	12/01	M	Review for Final Exam	Comprehensive	

