COE 2001 Syllabus

Statics, Section B, 2 Credits

Spring 2027

Instructor Information

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General Course Information

Description

This is an undergraduate course for students interested in learning statics. The topics to be covered include:

Introduction
- Components of a vector (Force)
- Cross and Dot Products

Moments, Resultants
- Moments and Couples
- Moments about a Line

Equilibrium of Rigid Bodies
- Free-Body Diagrams
- Equilibrium in 2D and 3D

Centroids and Distributed Forces
- Centroids of Composite Parts
- Distributed Loads

2D Structural Applications
- Plane Trusses
- Frames

Internal Forces in Beams
- Shear Force and Bending Moment Diagrams

Friction

Course Learning 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.

Required Course Materials

Engineering Mechanics Statics Meriam, Kraige and Bolton, 9th Edition or later

Grading Policy:

Letter grade: A (90 and above), B (80-90), C(70-80), D (60-70), and F (below 60)

Assignments

- Homework 1: 4%
- Homework 2: 4%
- Exam 1: 16%
- Homework 3: 4%
- Homework 4: 4%
- Exam 2: 20%
- Homework 5: 4%
- Homework 6: 4%
- Final Exam: 40%

Description of Graded Components

- Homework: 4-6 problems each.
- Exam 1 and Exam 2: 3-4 problems
- Final Exam: 6-8 problems

Course Policies

Attendance and/or Participation

This will be an active classroom, where you will be expected to participate. Attendance will be taken into account in determining letter grades, particularly for students whose final grades fall near a grade boundary.

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-Requisite

Physics 2211

Collaboration, Group Work, and Use of Generative AI

You are allowed to work in groups on all homeworks and the project, but any work you turn in must be written in your own hand. The use of Generative AI is prohibited.

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

Late homeworks and project will be penalized accordingly.