

Georgia Institute of Technology
AE 3140 B - Aerospace Structural Analysis
Fall 2026

George A. Kardomateas, Professor of Aerospace Engineering
george.kardomateas@aerospace.gatech.edu

Course Description:

Virtual and Complementary Virtual Work Methods; Unit Load Method. Energy and Complementary Energy Methods; Castigliano's theorem. Thin-Walled Structures; Shear Center.

Learning Outcomes:

The ability to analyze any structure under any loading, including indeterminate structures, structures with composite construction, hybrid structures (e.g. consisting of both a beam and a truss), etc. Also, the ability to determine the basic characteristics of thin walled structures such as the shear flow, the shear center, etc

Required Texts:

None

Recommended Texts:

Structural Analysis by **O.A. Bauchau** and **J.I. Craig**, Springer
Aircraft Structures for Engineering Students, **T.H.G. Megson**, Elsevier

Grades:

One mid-term exam 40% and the final exam 60%. Homework will be graded. Students who have an average that is borderline between two grades may have their grade raised based on the average grade from the homework problems.

Attendance:

This will be an active classroom, where you will be expected to participate. There is a definite correlation in exam performance between students who regularly attend class and those who do not.

Academic Intergity:

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 the [Student Code of Conduct](#) and the [Academic Honor Code](#), especially [Appendix A: Graduate Addendum to the Academic Honor Code](#).

Any student suspected of cheating or plagiarizing 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.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the [Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct](#).

Accommodations for Students with Disabilities:

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter.

Student-Faculty Expectations:

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 [Expectations of Advisors and Advisees](#) articulates these basic expectations. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek.