CEE 4550 Syllabus

Structural Analysis II, Section A, 3 credits

Fall 2026

Instructor Information

Instructor: Yang Wang

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General Course Information

Description

This course is intended to teach undergraduates and first year graduate students more advanced structural analysis techniques for indeterminate structures using classical and matrix/computer methods of solution. The course builds on materials presented in CEE 3055 – Structural Analysis.

Course Learning Outcomes

Students will demonstrate an ability to:

- Solve two- and three-dimensional trusses and frames
- Use a variety of stiffness and flexibility methods to solve both determinate and indeterminate structures
- Sketch influence lines of indeterminate structures and device experiment for verification
- Understand how to harness symmetry to simplify applicable problems

Required Course Materials

Fundamentals of Structural Analysis, 4th Edition. Kenneth M. Leet, Chia-Ming Uang, Anne Gilbert. McGraw Hill, ISBN: 978-0073401096.

Matrix Analysis of Structures, 2nd Edition. Aslam Kassimali. Cengage Learning, ISBN: 978-1111426200.

* Other versions of the books can be used as well.

Grading Policy:

Course performance will be evaluated with two sets of rubrics. The higher score among the two will be adopted to determine the grade.

Grading-A: Homework – including manual and coding assignments (15%)
Midterm (40%)
Final exam (45%)

Grading-B: Manual assignments (15%)
Coding assignments (10%)
Midterm (35%)
Final exam (40%)

Description of Graded Components

There will be homework due weekly, including the Final Instructional Class Days. A higher score between the two sets of rubrics will be used to determine letter grade according to the following scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

Course Policies

Attendance and/or Participation

Students are strongly encouraged to attend lectures in person. You should strive to turn your assignments in on time. The **late homework policy** uses a time-credit system. You are allowed up to SIX "late days" over the course of the semester. You may use them whenever you like, although no more than two late days per homework. Once you have used your allotted days, additional late assignments will not be accepted.

Note that you cannot use less than a day (meaning a calendar day, **NOT a "School Day" or a "Business Day"**); for example, if an assignment is one hour late it will be considered a full day.

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-Requisites

(1) CEE 3055 – Structural Analysis. (2) MATLAB experience is strongly recommended (CS 1371 - Computing for Engineers). If you had little experience before, there are plenty of tutorial materials online (**please go through the basic tutorials in first two weeks of the semester**): http://www.mathworks.com/help/matlab/getting-started-with-matlab.html?s_cid=learn_doc.

Additional Course Policies

1. Please scan your homework submission into a **single PDF file with letter page size** (8.5" × 11"), and upload under Assignments in Canvas. Late submissions will be through Canvas as well. Free apps like **Genius Scan** allows your smartphone to generate a clean scan. Free software like **PDF Architect** allows you to organize pages, and combine multiple PDF files into one.

2. If you miss an exam without a documented excuse[1], you get zero points on that exam. For planning purposes, please provide me with written notice of your upcoming absence at least two weeks before the event, and ideally within the first two weeks of class. In these exceptional circumstances, **makeup exams or quizzes** may be given after the normal exam time.

3. It is your responsibility to check possible **conflict in your final exams**, and contact the instructors to resolve the conflicts no later than 2 weeks before the Thursday of the Final Examination Period.

4. All in-class exams and the final exam are going to be **closed-book** while allowing cumulative cheat sheets. You can use a one-page double-sided cheat sheet in midterm, two pages in the final exam. These exams are meant to be your own work.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

A list of resources for undergraduate students' academic success and information about advising can be found at Success at Tech

- Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

Student Well-Being:

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being (student-resource-guide (gatech.edu).

[1] A documented excuse includes an original document indicating the excuse (such as hospitalization, family emergencies, Institute activities, etc.). Please see http://catalog.gatech.edu/rules/4/ for more information about receiving official notice from the Registrar on the nature and timing of your upcoming Institute-approved absence.