CEE 6110 Syllabus

Computer Applications in Construction CEE 6110, Section A, 3 Credits

Fall 2026

Instructor Information

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General Course Information

Description

This course provides a comprehensive introduction to the computing tools and digital technologies currently transforming the construction industry. Students will examine the analytical techniques used to evaluate and determine automation requirements within construction firms and on project sites.

The primary purpose of this course is to equip students with the foundational knowledge to assess how various computer applications can improve construction processes and management. By exploring the intersection of engineering principles and modern computing, students will learn to identify technological needs and analyze the feasibility of implementing automated solutions. This course is essential for those seeking to understand the role of data and technology in driving efficiency and innovation within the built environment.

Course Learning Outcomes

Upon successful completion of this course, you should be able to:

- Identify and categorize the primary computing tools and digital technologies currently impacting the construction industry.
- Analyze the specific automation needs and technological requirements of a construction organization.
- Evaluate the feasibility and potential impact of implementing digital solutions to improve construction workflows.

- Apply analytical techniques to support data-driven decision-making and technology integration in construction management.

Required Course Materials

All course materials (e.g., slides) will be provided in class.

Grading Policy:

Your final grade will be determined based on the following weighted categories. Please note that these percentages and requirements are subject to change as the semester progresses.

- Assignments: 20%
- Midterm #1: 20%
- Midterm #2: 20%
- Final Term Project: 30%
- Participation & Attendance: 10%
- Total: 100%

The following grading scale will be used to determine your final letter grade. Please note that these thresholds represent the minimum requirements for each grade.

- ≥ 90: A
- ≥ 80: B
- ≥ 70: C
- ≥ 60: D
- < 60: F

Description of Graded Components

Graded components would be like follows:

- Assignments: Regular tasks designed to provide practice with the computing tools and analytical methods discussed in lectures. These may include software exercises, data analysis problems, or brief technical reports.
- Midterm Exams: A comprehensive assessment covering the foundational concepts, terminology, and analysis techniques introduced during the first half of the semester.

- Final Term Project: The cornerstone of the course, where students will work (individually or in teams) to identify a specific construction-related challenge and propose or analyze a technology-based solution. Detailed guidelines will be provided mid-semester.
- Participation & Attendance: Evaluation of student engagement, including attendance at lectures, contribution to class discussions, and involvement in in-class activities.

Course Policies

Attendance and/or Participation

Attendance and active engagement are vital to the learning experience in this course. This component accounts for 10% of your final grade.

- Tracking Method: Attendance will be monitored through simple, periodic in-class activities. These activities are designed to reinforce the day's lecture material and encourage active participation.
- Excused Absences: Absences will be excused only in accordance with official Georgia Tech policies (e.g., illness, personal emergencies, or approved Institute activities). Students are responsible for providing appropriate documentation to the instructor in a timely manner.
- Impact of Participation: Beyond the grade, consistent attendance ensures you are present for technical demonstrations and discussions that are critical for completing assignments and the term project.

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.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

- 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.

Graduate Student Academic and Professional Success Resources:

A list of resources for graduate students is given on the Office of Graduate and Postdoctoral Education website. Specific information for current graduate students includes

- Academic Resources such as the Communications Center, Language Institute, Library, Catalog, Registrar, resources for conducting research, Advocacy and Conflict Resolution resources, and how to manage unexpected situations that may impact your academic performance;
- Student Resources such as Campus Services, Child Care/Family programs, Health & Wellness, Career Services, and the Student Resource Guide; and
- *Professional Development such as the programming from the Career Center and other professional development resources and events"*

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)