



CEE 6110: Computer Applications in Construction Fall 2022

Instructor	Eric Marks, Ph.D., P.E. Phone: (404) 385-6453 E-mail: ericmarks@gatech.edu Office: Mason Building Room 4140C
Office Hours	12:30 PM to 1:30 PM on Wednesday or by appointment
Class Schedule and Location	9:30 AM to 10:45 AM on Monday and Wednesday Ford Environmental Science and Technology (ES&T) Building Room L1125
Course Reading Text	Research articles and industry news documents will be posted on the class website for appropriate course modules.
Course Website	canvas.gatech.edu
Course Objectives	Students will learn about computing tools that are impacting the construction industry and the analysis techniques used to determine company automation requirements.
Course Outcomes	This course provides an in-depth introduction and analysis of computer applications in the construction industry including automation technologies. Issues related to application, implementation and evaluation of technologies and computer applications throughout the lifecycle of a construction process will be discussed. The course is designed to emphasize and improve student self-learning, critical thinking and problem-solving skills.
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. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/ or http://www.catalog.gatech.edu/rules/18/ .
Assignments	Assignments will be due throughout the semester as either team projects or self-learning presentations. These assignments will be an essential part of learning the lecture material. Completed assignments will be submitted on the Canvas website. Late assignments will be graded and assigned up to half credit of the original credit. In-class assignments may be completed and will be weighted the same as other assignments. Only Georgia Tech excused absences will be permitted to complete in-class material for full credit (see http://www.catalog.gatech.edu/rules/4/).
Grading Policy	Student performance is evaluated based on the following main elements: self-learning presentations and team projects. The class will be divided into groups for both the self-learning presentations and team projects. All students are required to complete anonymous peer-evaluation forms for the self-learning and project presentations, which will be considered by the instructor in grading the presentations. Late submissions of reports will be assessed for at most 50% of the original credit.
Attendance Policy	Regular attendance is expected and encouraged. Students can attend the course in the physical classroom or remotely (either option is acceptable). The participation portion of each student's grade will be determined by their attendance record. Students will not receive the 10% if they miss more than two classes unexcused. Each student is responsible for all material and administrative instructions given during the lecture period. Instructions will not be repeated outside of class. Attendance will be taken during each class.

**Academic
Accommodations
for Students with
Disabilities**

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404) 894-2563 or <http://disabilityservices.gatech.edu/>, 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.

Grading Scheme	<i>Percentage</i>	<i>Grade</i>
	90.0 - 100.0	A
	80.0 - 89.9	B
	70.0 - 79.9	C
	60.0 - 69.9	D
	59.9 or lower	F

Grading Weights	<i>Criteria</i>	<i>Weight</i>
	Self-Learning Presentation 1	15%
	Self-Learning Presentation 2	15%
	Self-Learning Presentation 3	15%
	Participation	10%
	Team Project #1	15%
	Team Project #2	15%
	<u>Team Project #3</u>	<u>15%</u>
	Total	100%

CLASS SCHEDULE

Weekday	Date	Topic
Monday	Aug. 22	Course Introduction
Wednesday	Aug. 24	Project Design
Monday	Aug. 29	Project Design, Mercedes Benz Case Study
Wednesday	Aug. 31	Project Controls Data Collection and Analysis (Productivity and Safety)
Monday	Sept. 5	No Class: Official Institute Holiday
Wednesday	Sept. 7	Guest Speaker: Skanska
Monday	Sept. 12	Site Visit: Moontower Atlanta (J.E. Dunn)
Wednesday	Sept. 14	Self-Learning Presentation 1
Monday	Sept. 19	Big Data for Construction
Wednesday	Sept. 21	Guest Speaker: Brasfield & Gorrie
Monday	Sept. 26	Team Project 1 Presentations
Wednesday	Sept. 28	Site Visit: Juneau Construction
Monday	Oct. 3	Computer Vision; Coda Case Study
Wednesday	Oct. 5	Guest Presentation: Shear Structural
Monday	Oct. 10	Self-Learning Presentation 2
Wednesday	Oct. 12	Surveying
Monday	Oct. 17	No Class: Fall Break
Wednesday	Oct. 19	Guest Speaker: (Worley) Digital Threads
Monday	Oct. 24	Building Information Modeling (BIM)
Wednesday	Oct. 26	Building Information Modeling (BIM)
Monday	Nov. 7	Team Project 2 Presentations
Wednesday	Nov. 9	EBB Case Study
Monday	Nov. 14	The Internet of Things
Wednesday	Nov. 16	BIM 360
Monday	Nov. 21	Technologies for Data Collection
Wednesday	Nov. 23	No Class: Student Recess
Monday	Nov. 28	Technologies for Data Collection
Wednesday	Nov. 30	Self-Learning Presentation 3
Monday	Dec. 5	Course Summary and Discussion
Wednesday	Dec. 14	Team Project 3 Presentations (8:00 AM - 10:50 AM)

Note: Guest lectures will be integrated into the existing schedule. The presented schedule can be changed based on various factors. The scheduled dates for bolded activities will not change.