CEE 6160 Safety Engineering Syllabus

CEE 6160-A, 3 Credits, CRN: 35290
Spring 2027

Instructor Information

Instructor: Eric Marks
Email: ericmarks@gatech.edu
Office: Mason Building Room 4140C
Office Hours: Contact the instructor to schedule an appointment.

General Course Information

Description

This course focuses on the application of proactive safety engineering approaches including theories of accident causation, human error classification, prevention through design, safety knowledge transfer and safety leading indicators.

Course Website

Canvas.gatech.edu

Course Schedule and Location

Monday and Wednesday
9:30am - 10:45am
Mason Building Room 3132

Course Objectives

The purpose of this course is to introduce students to various topics concerning safety engineering. Students will be exposed to specific safety challenges in the construction industry as well as problems in safety across the U.S. workforce. Most of the course content will implement proactive approaches to better understand safety challenges and potentially create solutions to promote safe work performance. Upon completion of this course, students will be able to:

1) Understand and discuss the complexity of workplace safety challenges in the Architecture, Engineering and Construction (AEC) industry.
2) Investigate opportunities to implement technology and innovation for traditional safety data collection and performance traditional safety program elements (including hazard identification, safety audits and ergonomic issues).
3) Differentiate between required reactive approaches and pro-active approaches for improving safety performance in an organization.

Required Course Materials

No textbooks are required for this course. Research articles and industry news documents will be posted on Canvas.

Grading Policy

Criteria	*Weight*
Attendance	10%
Assignments	40%
Safety Case Studies	30%
Self-Learning Presentations	20%

Grading Scheme

Percentage	*Grade*
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

Course Policies

Attendance

A core learning component of this course is attendance and participation. Regular attendance is required. The instructor will monitor class attendance in various ways including taking pictures to capture student attendance. Students arriving 20 minutes after the start of class will be considered absent for that day. Students are only permitted to miss six total class periods for the duration of the semester. These six class periods include Institute Excused Absences. A student will not receive credit for the attendance portion of their grade if they miss more than six classes during the semester.

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 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.

Assignment Policy
Assignments will be provided throughout the semester and are an essential part of understating the course material. Completed assignments will be submitted on the Canvas course website. There will be two types of assignments: In-class assignments and take-home assignments. In-class assignments will be completed during the duration of one class period. The instructor will replace two of the student's lowest assignment scores with a perfect score. The replacement will account for instances when students need to miss class and/or deadlines for university-excused absences.

Collaboration, Group Work, and Use of Generative AI
A student may only use generative AI programs to help generate ideas and brainstorm. A student should be aware that material generated by these programs may be inaccurate, incomplete, biased, or otherwise problematic. Use of these tools may stifle a student's independent thinking and creativity. Per Georgia Tech's Honor Code, a student may not submit any work generated by an AI program their own.

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.

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)