

# Civil Engineering Materials Syllabus

## Course Information

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**Instructor:** Sheng Dai (sdai6@gatech.edu)

**Course Prefix and Number:** CEE 3020

**Term:** Fall 2026

## General Course Information

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### Description

Physical, mechanical, and durability properties of concrete, metals, unreinforced and reinforced plastics, timber, asphalt, and asphalt concrete.

### Course Learning Outcomes

- To develop a competent understanding of the physical, mechanical, and other important properties of construction materials used in modern civil engineering applications
- To understand relationships between nano/microstructure and macroscale material behavior
- To build an awareness of common practices used in the manufacture, selection, and use of modern construction materials
- To develop an intuitive sense of material behavior through a series of hands-on laboratory exercises
- To improve written technical communication skills

### Required Course Materials

- Materials for Civil and Construction Engineers, 4th Ed, Mamlouk & Zaniewski, Prentice Hall, 2017 (ISBN-13: 9780134320533)
- Lecture supplements, laboratory handouts, and other communication will be posted on Canvas.

### Grading Policy:

- All quizzes and exams are closed book/notes and in-person.
- Because laboratory exercises are an integral part of learning in this course, **ALL lab reports are required to be submitted to receive a passing final grade.**
- Missing **70%** of the pop quizzes will cause **a drop in letter grade.**

Exam I	10%
Exam II	10%
Exam III	15%

Lab Reports	50%
Pop quizzes	5%
Project	10%

Final grades will be determined according to the following scale:

Course Average	Final Grade Will Be At Least *
Avg $\geq$ 90	A
90 > Avg $\geq$ 80	B
80 > Avg $\geq$ 70	C
70 > Avg $\geq$ 60	D
Avg < 60	F

*\* Assuming all Lab Reports are submitted prior to the Reading Period.*

## Course Policies

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### Attendance and/or Participation

Attendance at all lectures is **mandatory**. Missing 70% pop quizzes without prior approval will cause a drop in letter grade. Following the Institute's requirement, verification of participation in the class will be reported to the Registrar's Office and the Office of Scholarships and Financial Aid.

### 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.

## **Additional Georgia Tech Required Policies [Remove this heading in your final syllabus]**

### **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**

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### **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](https://success.gatech.edu/tutoring), email us at [tutoring@gatech.edu](mailto: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 \(gatech.edu\)](#))