GEORGIA INSTITUTE OF TECHNOLOGY

SCHOOL OF ELECTRICAL & COMPUTER ENGINEERING

Syllabus: ECE 3025 Electromagnetics (A/QUP Sections)

Course Websites: Canvas Site, YouTube™ channel profdurgin

INSTRUCTOR INFORMATION:

Instructor	**Email**	**Office Hours & Location**
Prof. Gregory D. Durgin 507 Van Leer	durgin at gatech.edu	immediately after class, others TBD

COURSE INFORMATION

Description

Presentation of the laws and applications of electromagnetics. This course covers transmission line theory, basic electrostatics, Maxwell's equations, and introductory concepts in electromagnetic waves.

Course Goals and Learning Outcomes

Rough Outline:

1. Time-Domain Transmission Lines
2. Time-Harmonic Transmission Lines
3. Electrostatics
4. Magnetostatics
5. Wave Dynamics and Applications

Graded Components

Assignments	**Weight**
Homework	20%
Midterm Quizzes (2)	55%
Final Exam	25%

Description of Graded Components

Expect 8-10 homework assignments throughout the term, to be turned in through canvas. There will be 2 in-class (or DL proctored) quizzes throughout the term; I typically de-weight the lowest midterm score such that your highest test score counts 30% and your lowest test score counts 25% toward your total course grade. There is a cumulative final exam for this course that will emphasize material covered since the second evaluation period.

For all assignments and projects, late work is not accepted. Special accommodations can be made for medical emergencies, interviewing, and other important events, but only if sufficient advance notice is given to (and permission granted by) the instructor ahead of time.

Grading Scale

This course uses a traditional A (>90.0), B (>80.0), C (>70.0), D (>60.0), F (<60.0) grade scale unless special circumstances require a curve to achieve the recommended course GPA as specified by the ECE course catalog. Traditionally, this course target GPA is 3.20. I do not curve *downward* from the traditional grade scale.

Classroom Management

This class will have a standard lecture format for the Atlanta campus. The video section will parallel coverage for the Atlanta section, with video links to relevant lectures in a common canvas site. Every effort will be made to ensure that student workload and time distribution is kept within reasonable limits for a 3-credit lecture course.

COURSE MATERIALS

Course Text: Primarily Online Notes
Engineering Electromagnetics, 9th edition, Hayt and Buck. McGraw-Hill, 2018.
Transient Signals on Transmission Lines, 2st edition, Peterson and Durgin. Springer, 2023.

Additional Materials:
Additional notes and materials for this course will be disseminated through Canvas. Select content videos are available on the "profdurgin" YouTube channel.

COURSE EXPECTATIONS & GUIDELINES

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/. Any student suspected of cheating or plagiarizing 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.

Collaboration & Group Work

It is expected that each student upholds the Georgia Tech honor code when preparing work for this class. Everyone must turn in their own work (or group's work where specified) without contribution from another person or source, whether homework, project, or test. For homework assignments, discussion of topics and concepts are encouraged among students provided all submitted work is still original.

Student Use of Mobile Devices

Students may not use mobile devices during tests other than as calculators. Observations of violations during test periods will be reported to the Office of Student Integrity.

Accommodations for Individuals with Disabilities

If you are a student with learning needs that requires 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 accommodation 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

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. See http://www.catalog.gatech.edu/rules/22/ for an articulation of some basic expectation 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.