

Class meets TTh 12:30-2:00pm in ENS 126

Unique No. 16415

Instructor

Ali Yilmaz

Office Hours: TBD (see Blackboard)

TA

Cemil Geyik

Office Hours: WF 11-12

Course website

Blackboard (<http://courses.utexas.edu>)

Textbook

W. H. Hayt and J. A. Buck, *Engineering Electromagnetics*, Seventh Edition, 2006.

Prerequisites

PHY303L, PHY103N, and MATH427K with a grade of at least C- in each; and credit with a grade of at least C- or registration for MATH427L.

Course Objectives

EE325 provides an introduction to electromagnetic theory and principles. Electromagnetics or “field theory” provides the fundamental basis for much of electrical engineering. Direct engineering applications of electromagnetics include antennas, radio wave propagation, radar sensors, and microwave and RF circuitry. In addition, electromagnetics has close ties to communication systems, opto- and solid-state electronics, circuit design, and power systems. The course will cover three major topics:

- 1) Electrostatics (Coulomb’s law, Gauss’s law, electric scalar potential, material interaction with electric field, Laplace’s equation, boundary conditions on conductors and between dielectrics, resistance and capacitance) (Chaps. 2-7)
- 2) Magnetostatics (Biot-Savart law, Ampere’s law, magnetic vector potential, material interaction with magnetic field, magnetic energy and inductance) (Chaps. 8-9)
- 3) Electrodynamics (Faraday’s law, displacement current, Maxwell’s equations, wave phenomena, transmission lines) (Chaps. 10-13)

Grading

Weekly Quiz (2% each, best 9 out of 10)	18%	on Tuesdays (1 st quiz on 1/25)
2 Midterms (21% each)	42%	<u>around</u> 3/1 and 4/19
3-hour final (comprehensive)	40%	TBD

Homework

Sample problems will be assigned weekly. Questions and solutions will be posted on the course webpage. As the solutions will be available, homework assignments will not be collected or graded. Collaboration on homework problems is permitted and encouraged.

Quizzes

There will be a 10-minute quiz at the beginning of class (almost) every Tuesday. The weekly quiz will include questions very similar (and sometimes identical) to the week’s assigned homework problems. Therefore, you are strongly encouraged to review homework questions and their solutions. There will be a total of 10 quizzes and the lowest quiz grade will be dropped in computing the final quiz grade.

Problem Solving Sessions

The TA will hold weekly problem solving sessions on Monday afternoons (starting 1/24) 5:00-7:00 pm in ENS 306. Sessions are optional, but you are highly encouraged to attend.

Undergraduate Tutoring Program

The ECE department organizes evening tutoring sessions Monday and Tuesday nights (starting 1/24) 7:00-10:00 pm in ENS 314.

Make-up Policy

There will be no make-up exam for the weekly quiz or the midterms. You are expected to be present for every quiz and exam. The lowest quiz grade is dropped in calculating the final score.

Other Information

Copying other people's work or letting others copy your work is considered scholastic dishonesty and will not be tolerated under any circumstances. For a detailed description of plagiarism and other offenses for which a disciplinary proceeding may be initiated, see subchapter 11-800, "Student Standards of Conduct" under the UT catalog <http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html>.

Additional office hours will be scheduled before each exam.

The course and instructor evaluation will be made during the last two weeks of classes.

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, <http://www.utexas.edu/diversity/ddce/ssd>.