

EENG 3411 - Engineering Electromagnetics Lab

Spring 2026

Description

Electromagnetic Labs primarily revolves around practical lab experiments designed to reinforce theoretical concepts in electromagnetism. The course emphasizes hands-on activities, with students engaging in a variety of experiments to explore electromagnetic phenomena. Assessment is predominantly based on lab reports and performance during lab sessions, more focus on demonstrating practical understanding through projects and presentations. Credit hours: 1 hr.

Prerequisite(s): EENG 2610, MATH 3310.

Instructor

Hung Luyen, Assistant Professor, Electrical Engineering Department

- Office: NTDP B232,
- Office hours: 14:00-15:00 Tuesday, and by appointment
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Teaching Assistant

Huy Nguyen

- Office: NTDP B245
- Office hours: 15:00-16:00 Monday
- Email: HuyNguyen33@my.unt.edu

Format

- Class meetings NTDP B288, Tuesday 5:30-8:20 pm
- Lecture notes, lab assignments, and other supplementary materials will be posted on Canvas
<https://unt.instructure.com/courses/138335>

Grade

Lab Report: 100%

Grade distribution

A=90-100, B=80-89, C=70-79, D=60-69, F=0-59

Textbooks

Required: by Matthew Sadiku. Elements of Electromagnetics (The Oxford Series in Electrical and Computer Engineering) 7th Edition

Class Evaluation by Students

Student Perceptions of Teaching (SPOT) is a requirement for all organized classes at UNT and is available for your input at the end of the semester.

Topics

- Vector Algebra, Chapter 1, sections 1.1 – 1.7
- Coordinate Systems and Transformation, Chapter 2, sections 2.1 – 2.4
- Vector Calculus, Chapter 3, sections 3.1 – 3.7
- Electrostatic Fields, Chapter 4, sections 4.1 – 4.10
- Electric Fields in Material Space, Chapter 5, sections 5.1 – 5.9
- Electrostatic Boundary Value Problems, Chapter 6, sections 6.1 – 6.5
- Magnetostatic Fields, Chapter 7, sections 7.1 – 7.7
- Magnetic Forces, Materials, and Devices, Chapter 8, sections 8.1 – 8.10
- Maxwell's Equations, Chapter 9, sections 9.1-9.7

Policies

- Grades: All grades for the course will be final. No extra credit assignments or work will be considered after the final grade has been recorded.
- Lab report policies:
 - Lab reports are due by the deadline specified for the corresponding assignments on Canvas.
 - Late assignments will be accepted within 24 hours of the submission deadline. A 30% penalty is applied to accepted late assignments. Late submission will no longer be accepted after 24 hours past the deadline.
- Accommodations: The EE Department in cooperation with the Office of Disability Accommodation complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request before the 12th class day.
- Academic Dishonesty: Students caught cheating, plagiarizing, or any other academic dishonesty will be subject to penalty according to the new Policy on Students Standards on Academic Integrity. See full policy at http://www.unt.edu/policy/UNT_Policy/volume3/18_1_16.pdf
According to this policy the categories of academic dishonesty are:
 1. Cheating. The use of unauthorized assistance in an academic exercise, including but not limited to:
 - a. use of any unauthorized assistance to take exams, tests, quizzes or other assessments;

- b. dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments;
- c. acquisition, without permission, of tests, notes or other academic materials belonging to a faculty or staff member of the University;
- d. dual submission of a paper or project, or re-submission of a paper or project to a different class without express permission from the instructor;
- e. Any other act designed to give a student an unfair advantage on an academic assignment.

2. Plagiarism. Use of another's thoughts or words without proper attribution in any academic
3. Forgery. Altering a score, grade or official academic university record or forging the signature of an instructor or other student.
4. Fabrication. Falsifying or inventing any information, data or research as part of an academic exercise.
5. Facilitating Academic Dishonesty. Helping or assisting another in the commission of academic dishonesty.

Tentative Course Calendar

Week	Date	Topics
1	01/13	No lab for 1 st week
2	01/20	Lab 1: electromagnetic foundation
3	01/27	
4	02/03	Lab 2: Inductors and Transformers
5	02/10	
6	02/17	Lab 3: Paper Speaker
7	02/24	
8	03/03	Lab 4: Capacitive Sensor
9	03/10	Spring Break
10	03/17	Lab 5: DC Motor
11	03/24	
12	03/31	Lab 6: Magnetization and Demagnetization
13	04/07	
14	04/14	Lab 7: Final Project
15	04/21	
16	04/28	
17	05/05	