

## Introduction to Electromagnetism with Practice

Course coordinator: Yoonchan Jeong

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Office hours: 15:30 – 17:00, Tue/Thu

Teaching assistants: TBA

(Office: 301-1012, Tel: 02 880 1788, Email: TBA)

Venue & time:

301-202 & 14:00 – 15:15, Mon/Wed (Lecture);

301-207 & 10:00 – 11:50, Fri (Practice)

Prerequisites: Engineering Mathematics I, II

Credit points: 4

Course overview:

The objective of this course is to provide undergraduate students with a fundamental knowledge of electromagnetic fields (focused more on static fields). Topics to be covered include: The electromagnetic model; Vector analysis; Static electric fields; Solution of electrostatic problems; Steady electric currents; Static magnetic fields; Time-varying fields and Maxwell's equations.

Course-book:

D. K. Cheng, *Field and Wave Electromagnetics*, 2nd ed. Addison-Wesley, 1989.

Reference:

J. D. Jackson, *Classical Electrodynamics*, 3rd ed. Wiley, 1999.

Course schedule:

Week 1: Introduction & Pre-course questionnaire

Week 2: Chap. 1 / Chap. 2

Week 3: Chap. 2

Week 4: Chap. 3

Week 5: Chap. 3

Week 6: Summary / Exam 1

Week 7: Chap. 4

Week 8: Chap. 4

Week 9: Chap. 5 / Summary / Exam 2

Week 10: Chap. 6

Week 11: Chap. 6

Week 12: Chap. 6

Week 13: Chap. 7

Week 14: Chap. 7

Week 15: Summary / Exam 3

Assessment methods:

Participation/Quiz (10%), assignment (25%), practice (25%) exam 1 (15%), exam 2 (8%), and exam 3 (17%)