

Introduction to Electromagnetism with Practice

Course coordinator: Yoonchan Jeong

(Office: 301-509, Tel: 02 880 1623, Email: yoonchan@snu.ac.kr)

Teaching assistants: TBA

Venue & time:

301-201 & 14:00 – 15:15, Tue/Thu (Lecture);

301-207 & 18:30 – 20:00, Thu (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 & Chap. 1 / Chap. 2

Week 2: Chap. 2

Week 3: Chap. 2 / Chap. 3

Week 4: Chap. 3

Week 5: Chap. 3

Week 6: Summary / Exam 1

Week 7: Chap. 4

Week 8: Chap. 4 / Chap. 5

Week 9: Chap. 5 / Summary

Week 10: Exam 2 / Chap. 6

Week 11: Chap. 6

Week 12: Chap. 6

Week 13: Summary / Chap. 7

Week 14: Chap. 7

Week 15: Summary / Exam 3

Assessment methods:

Participation (5%), assignment (10%), practice (25%) exam 1 (20%), exam 2 (15%), and exam 3 (25%)