

Electromagnetism 1

Syllabus Number

3E211

Basic Major Subjects

Elective Requisites 2
credit

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1. Course Description

Students learn electromagnetism in the basic concepts. Students will understand the various types of capacitor and how to design the capacitors. This subject is related to DP4E.

2. Course Objectives

Students will be able to calculate various electromagnetic quantities appearing in other engineering courses.

3. Grading Policy

Small tests and reports (50%) and final exam (50%)

4. Textbook and Reference

Textbook

Hashimoto Junichiro 単位が取れる電磁気学ノート

Kodansha scientific Inc.

Reference

Hashimoto Junichiro 単位が取れる電磁気学演習帳 Kodansha scientific Inc.

5. Requirements(Assignments)

For preparation and review, please (each approximately 1.5 hours) always use textbooks. Course contents follow the textbook chapters and contents.

6. Note

This field requires knowledge of differential and integral calculus

7. Schedule

- [1] How to learn electromagnetism
- [2] Coulomb's law and Gauss's law (1)
- [3] Coulomb's law and Gauss's law (2)
- [4] Coulomb's law and Gauss's law (3)
- [5] Electrostatic potential (1)
- [6] Electrostatic potential (2)
- [7] Electrostatic potential (3)
- [8] Electric conductors (1)
- [9] Electric conductors (2)
- [10] Electric conductors (3)
- [11] Capacitor and electrostatic energy (1)
- [12] Capacitor and electrostatic energy (2)
- [13] Capacitor and electrostatic energy (3)
- [14] Dielectrics
- [15] Summary and test