

Advanced Theory of Electric Power Engineering

2 units (selection)

Masatake Kawada · ASSOCIATE PROFESSOR / ELECTRIC ENERGY ENGINEERING, ELECTRICAL AND ELECTRONIC ENGINEERING, SYSTEMS INNOVATION ENGINEERING

Target) To help the students understand the principles and the trends of technologies used in electric power engineering and the related environmental aspects. To improve the oral presentation skill of students by presenting the latest transaction or journal papers in this field in English.

Outline) This course presents the principles and trends of technologies used in electric power engineering and the related environmental aspects. Students are required to present the latest transaction or journal papers in this field in English.

Style) Lecture and exercise

Keyword) *electromagnetics, electrical circuits*

Relational Lecture) “Advanced Theory of Electromagnetic Compatibility” (0.5), “Electric Power System”(0.5), “Advanced High Voltage Engineering” (0.5)

Requirement) Prerequisites: electrical power engineering, energy engineering or equivalent in undergraduate.

Goal)

1. To understand the principles and the trends of technologies used in electric power engineering
2. To understand the environmental aspects of electric power engineering

Schedule)

1. Principles of electric power engineering 1
2. Principles of electric power engineering 2
3. Materials in electric power engineering
4. Instrumentation in electric power engineering
5. Generators
6. Transformers
7. Switchgear
8. Cable
9. Power system
10. Power quality and electromagnetic compatibility
11. Presentation of surveyed transaction or journal papers 1
12. Presentation of surveyed transaction or journal papers 2
13. Presentation of surveyed transaction or journal papers 3
14. Presentation of surveyed transaction or journal papers 4

15. Final Examination (Evaluation of Achievement 1 and 2).

16. Explanation for the Answers to Final Examination

Evaluation Criteria) Final examination 50%, Presentation 50% Attendance and participation in class are essential. Totally 60 % is required.

Textbook) D.F. Warne , Electrical Power Engineer’s Handbook second edition, Newnes

Contents) <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216794>

Student) Able to be taken by only specified class(es)

Contact)

⇒ Kawada (E棟2階北 B-10, +81-88-656-7460, kawada@ee.tokushima-u.ac.jp) MAIL (Office Hour: Wednesday 16:00-17:00, Thursday 16:00-17:00)

Note)

- ◇ Language: English
- ◇ Self-study: Preparation 2 hours and review 2 hours for every class (2hours) .