Electromagnetic Compatibility

2 units (selection)

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Target〉 To help the students understand the fundamentals of EMC(electromagnetic compatibility) and electric safety and to provide the students with the skills required to analyze the problem related to EMC.

Outline〉 This course presents the fundamentals of EMC(electromagnetic compatibility) and electric safety.

Keyword〉 ***EMC (Electromagnetic Compatibility), Alternating Current, Three Phase Systems, Electric Safety***

Fundamental Lecture〉 "**Electromagnetic Theory (I)**"(1.0), "**Electromagnetic Theory (II)**"(1.0), "**Electrical Circuit Theory (I)**"(1.0), "**Electrical Circuit Theory (II)**"(1.0), "**Fundamentals of Energy Engineering**"(1.0)

Relational Lecture〉 "**Electrical Circuit Theory (I)**"(1.0), "**Electrical Circuit Theory (II)**"(1.0), "**Exercise of Electrical Circuit Theory**"(1.0), "**Electromagnetic Theory (I)**"(0.5), "**Electromagnetic Theory (II)**"(0.5), "**Fundamentals of Energy Engineering**"(0.5), "**Power Generation and Transformation Engineering**"(0.5)

Requirement〉 Prerequiesties: Electrical Circuit Theory 1 and 2, and Exercise, Electromagnetics 1 and 2.

Notice〉 Review the Electrical Circuit Theory and Electromagnetics.

Goal〉

1. To understand alternating current circuits.
2. To understand three-phase systems.
3. To understand electric safety

Schedule〉

1. Introduction of Electromagnetic Compatibility.
2. Alternating Current Circuits.
3. The Concept of Phasors.
4. Electric Power.
5. Problems Related to Reactive Power.
6. Three-Phase Systems.
7. Difference between Delta and Wye Connected Systems.
8. Midterm Examination (Evaluation of Archievement 1 and 2).
9. Explanation for the Answers to Midterm Examination.
10. Circuits with Mixed Connections.
11. Electric Shock.
12. Ground Resistance.
13. Electric Safety at Home.
14. Safety on Power Lines.
15. Final Examination (Evaluation of Achievement 2 and 3).
16. Explanation for the Answers to Final Examination.

Evaluation Criteria〉 Assignments 20%, Midterm Examination 30%, Final Examination 50%. Totally 60% is required. Attendance and participation in class are essential

Textbook〉 Mohamed A. El-Sharkawi, Electric Energy An Introduction Second Edition, CRC Press

Contents〉 http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216212

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

Contact〉

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Note〉

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