**EE204: Electromagnetism II (전자기학 II)** Fall 2016

***Instructor:*** Prof. Jongwon Lee

School of Electrical and Computer Engineering

Office: EB2 301-9

Email: [jongwonlee@unist.ac.kr](mailto:jongwonlee@unist.ac.kr)

***Teaching Assistants:*** In-Yong Hwang,

***Class Hours:*** Tue/Thu 17:30 – 18:45

***Office Hours:*** Mon/Wed 14:00 – 15:00

***Class Room:*** EB2 T101

***Text Book:*** Engineering Electromagnetics, 8th Ed., William H. Hayt, Jr., John A. Buck

***Additional Reference:*** Introduction to Electromagnetism, Griffiths

Field and Wave Electromagnetics, David K. Cheng

***Black Board:*** All class-related information including schedules of homework and exams will be posted on Black Board. Keep checking updates on BB.

***Course Description:***

This course is the second in a series on Electromagnetics beginning with Electromagnetics I. This course will cover basic electromagnetic phenomena and its applications: Brief review of Electromagnetics I, Time-varying fields and Maxwell’s equations, theory and applications of Transmission lines, basic properties of plane wave and plane wave reflection and dispersion, waveguides and cavity resonators, and electromagnetic radiation and antennas.

***Grading:***

Class participation (Attendance) 10%

Homework 20%

Mid-term Exam 30%

Final Exam 40%

**Class Attendance:** Class attendance will be checked by offline, and will be used for grading class participation. Being late twice will be regarded as being absent once. 10% of class participation for full attendance, 8% for 1 absence, 6% for 2 absence, 4% for 3 absence, 2% for 4 absence and 0% for 5 absence or more.

**Homework:** Submit homework after class on the due date. Late submission is not allowed and regarded as not submitted.

**Exams:** One midterm exam and one final exam

**Honor Code Statement:** You are expected to do homework and exams by yourself, and any plagiarism is strictly prohibited and will be appropriately punished. When preparing homework you are allowed to discuss with other peer students, but all material submitted must be original.

**Notes on exam grading:** For exam problems, reasoning and analysis are typically as or more important than the final answer. You should explain your reasoning clearly and show all work. Be sure to erase or cross out any work you do not want to be considered in grading. If you demonstrate mastery of the key concepts required to solve a problem, you will receive substantial credit even if the final answer is not completely correct. Conversely, a correct final answer without explanation or justification will typically receive very limited credit.

**Policy on Collaboration:**

Discussion of course material and homework problems is permitted (and encouraged!). However, each student should work through the homework problems (and write up his or her solutions) independently. For additional details please see the section of this syllabus on Policy on Academic Integrity.

***Course Schedule***

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| Week | Contents | Chapter |
| 1  8/30, 9/1 | 1. Course overview & Introduction  2. Gauss’s Law and Electric flux density | 1-3 |
| 2  9/6,8 | 1. Conductors, Dielectrics and Capacitance  2. Steady Magnetic Field, Magnetic Forces and Inductance | 5,6  7.8 |
| 3  9/13, 15 | No class on Tue and Thu |  |
| 4  9/20, 22 | Time-Varying Fields and Maxwell’s Equations | 9 |
| 5  9/27, 29 | 1. Time-Varying Fields and Maxwell’s Equations  2. Conservation Laws | 9 |
| 6  10/4, 6 | Transmission Lines | 10 |
| 7  10/11, 13 | Transmission Lines | 10 |
| 8 | Midterm Exam |  |
| 9  10/25, 27 | The Uniform Plane Wave | 11 |
| 10  11/1, 3 | Plane Wave Reflection and Dispersion | 12 |
| 11  11/8, 10 | Plane Wave Reflection and Dispersion | 12 |
| 12  11/15, 17 | Guided Waves | 13 |
| 13  11/22, 24 | Guided Waves | 13 |
| 14  11/29, 12/1 | Electromagnetic Radiation and Antennas | 14 |
| 15  12/6, 8 | 1. Electromagnetic Radiation and Antennas  2. Introduction to Metamaterials | 14 |
| 16 | Final Exam |  |