Syllabus for 3342.516
Classical ElectroMagnetism II
Fall 2005

Course:

Lecture: Mo/We 2:30–3:45
Room: 028-303

Lecturer: Seonho Choi

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Office Hours:	Mo 4:00–5:00, and by appointment

Teaching Assistants

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Prerequisites: Introductory modern physics, undergraduate E&M, graduate E&M 1st semester, basic computer programming language skill (C, C++, FORTRAN *etc*)

Main textbook: Classical Electrodynamics, 3rd Edition by John David Jackson

Topics to be Covered: Following E&M I during the first semester, in this course, we will be studying dynamical part of Maxwell equations. One of the most important phenomena of moving charges is radiation and sizable part of the course will be concentrated on this subject. During the second semester, we will cover Chapters 7, 8, 9, 10, 11, 12 and 14. Even in the mentioned chapters, too specific topics may not be dealt with. If my plan proves to be too ambitious, I will adjust it later.

Homework: During this semester, there will be at most 6 homeworks. Homeworks will be given out every Monday in general and are due in two weeks. Deadline will be strict since you can work on it for two weeks. Discussion with friends to solve the problem is *highly* recommended, but

almost identical answers will be investigated and might be nullified. Some homework problems are numerical calculation oriented and requires some computer programming language skill such as C-language or FORTRAN. If you are clever enough, you might be able to use programmable calculator.

Exams: There will be two exams: mid-term and final. I do wish to schedule the exams during regular class hours, but during the first semester, students preferred to take exams in the evening for about 3 or 4 hours. So if students wish to do that, we can arrange it.

Grading:

Homework	50
Mid-term Exam	70
Final Exam	80
Total	200 points

Working Together: It is highly encouraged to work together on homework. But if you work together on a homework which requires a definite solution, please try to write up the solution on your own after discussion with your classmates. Working together on exams, of course, is expressly forbidden.

Absences: You are expected to attend every class. If you are not able to attend a class, please send me an e-mail (or a phone call) so that everybody won't have to wait for you. Planned absence to exams (in case of an emergency) should be notified as soon as possible so that you can get another chance to take the exams.

Cheating: Of course, cheating will be dealt strictly.

Expectations: I expect that everyone will maintain a classroom conducive to learning. I like an informal atmosphere, but it must be orderly. Thus, everyone is expected to behave with basic politeness, civility, and respect for others. In particular, talking in class is ok if it's part of a class discussion or with me. Private communications are not, especially during tests. Neither are reading extraneous materials, using electronic equipment (including cellular phone or PDA), or sleeping. If you intend to do these *irregular* activities, you had better skip the class. All the cellular phones should be turned off or put into the vibration mode during the class. **As usual, any reasonable questions are welcome anytime, anywhere. *NEVER* kill your curiosity.**

Suggestions: Suggestions for improvement are welcome at any time. Any concern about the course should be brought first to my attention. Further recourse is available through the Department Chair. Any improper wording or behavior from my part (sexual/personal/biased) can also be mentioned to me in private or in public.

Time Table:

Days	Plan
Sep. 5, 7, 12	Plane Electromagnetic Waves and Wave Propagation
Sep. 14, 21, 26, 28	Waveguides, Resonant Cavities and Optical Fibers
Oct. 5, 10, 12, 17	Radiating Systems, Multipole Fields and Radiation
Oct. 19, 24	Scattering and Diffraction
Oct. 26	Midterm (Chapters 7 to 9)
Oct. 31, Nov. 2	Scattering and Diffraction
Nov. 7, 9, 14	Special Theory of Relativity
Nov. 16, 21, 23, 28	Dynamics of Relativistic Particles and Electromagnetic Fields
Nov. 30, Dec. 5, 7, 12	Radiation by Moving Charges
Dec. 14	Final