

EE3FK4

ELECTROMAGNETICS II



Objectives

By the end of this course, you should be able to:

- gain knowledge on the basic principles of time-varying electromagnetic field
- understand the basics of transmission lines and antenna.
- solve engineering problems related to electromagnetic propagation
- design simple devices that require the knowledge of electromagnetic field

Text Books/Reference Books

Text book:

“Engineering Electromagnetics”, W.H. Hayt Jr. and
J. A. Buck, Eighth Edition, McGraw Hill.

Reference:

“Elements of electromagnetics”, N. O. Sadiku,
Oxford University Press, ISBN 9780195387759

Course notes will be placed on the course website

<http://www.ece.mcmaster.ca/~kumars/Electromag.htm>

Course Outline

- Review of Electrostatics and Magnetostatics - 2 lectures
- Maxwell's equations and Plane waves - 12 lectures
- Reflection and dispersion - 3 lectures
- Transmission lines and waveguides - 9 lectures
- Radiation and Antennas – 6 lectures

Evaluations

- Final Exam 40%
 - Midterm test 15%
 - Labs 20%
 - Quizzes 15%
 - Matlab assignments 10%
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- Matlab assignments are based on custom courseware. You will need to do roughly one numerical experiment per week. The courseware costs about \$10.

Expectations

- My expectations
 - Speak up.
 - No talking during the lecture.
- What are your expectations?

Contact Info

- **Instructor: Dr. S. Kumar**
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- **Office Hours: Tuesdays and Fridays 1 pm – 3 pm.**
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