

## Syllabus for ELE315 Electromagnetics II

### Recommended Sources:

- Fundamentals of Engineering Electromagnetics, David K. Cheng (Addison Wesley 1993, ISBN: 0-201-56611-7)
- Electromagnetics in Engineering, W. H. Hayt, Jr., J. A. Buck - 7. basım, McGraw-Hill, ISBN: 007-124449-2
- Field and Wave Electromagnetics, David K. Cheng - İkinci Basım, Addison-Wesley ISBN: 0-201-12819-5
- Introduction to Electrodynamics, David J. Griffiths, Prentice Hall, New Jersey, 1999
- Mühendislikte elektromanyetiğin temelleri, David K. Cheng, Türkçe çeviri, Palme Yayıncılık 2007

Week		
1	Time-varying fields and Maxwell's equations, Faraday's Law of Electromagnetic Induction	
2	Moving Conductors and Circuits in a Time-Varying Magnetic Field	
3	Potential functions	
4	Solution of Wave Equations, Time-Harmonic Fields	
5	Phasors and time-varying electromagnetic waves	
6	Electromagnetic wave propagation in lossless medium	
7	Transverse plane waves, polarization	
8	Electromagnetics wave propagation in lossy medium	
9	Classification of media: Lowloss dielectrics, good conductors	
10	Power flow in electromagnetic waves, Poynting's vector, Instantaneous and average power	
11	Perpendicular incidence of plane waves	
12	Oblique incidence of plane waves	
13	Total reflection, perpendicular polarization	
14	Parallel polarization, Brewster angle	