

ELECTROMAGNETIC THEORY SYLLABUS

Reading from Griffiths	Topics
2.1.1 - 2.1.3	Electric field, point charges
2.1.4	Continuous charge distribution
2.2.1 - 2.2.2	Gauss' law, divergence of E
2.2.3	Gauss' law
2.2.4, 2.3.1 - 2.3.2	Gauss's Law, curl of E , electric potential
2.3.3 - 2.3.4	Electric potential
2.3.5	Boundary conditions
2.4.1 - 2.4.2	Work and energy, HW quiz (C1 - 6)
2.4.3 - 2.4.4; 2.5.1 - 2.5.2	More work and energy, Conductors
2.5.3 - 2.5.4	Conductors and capacitors
3.1, 3.2.1	Laplace's equation, classic image problem
3.2.2 - 3.2.4	More images
3.3.1	Laplace's equation, cartesian coordinates
3.3.2	Laplace's equation, spherical coordinates
3.3.2	Laplace's equation, spherical coordinates
3.4.1 - 3.4.2	Multipole expansion, HW Quiz (C7 - 14)
3.4.3 - 3.4.4	Multipole expansion
	SPRING BREAK
4.1.1 - 4.1.4	Dipoles and polarization
4.2.1 - 4.2.3	Bound charges
4.3.1 - 4.3.3	The electric displacement
4.4.1	Linear dielectrics
4.4.2	More linear dielectrics
5.1.1 - 5.1.2	Lorentz law, HW Quiz (C15 - 21)
5.1.2, 5.1.3	Lorentz law, currents
5.2	Biot-Savart law
	EASTER BREAK
5.3.1 - 5.3.3	Divergence and curl of B , Ampere's law
5.3.3 - 5.3.4	Ampere's law
5.4.1 - 5.4.2	Magnetic vector potential, boundary conditions
5.4.3, 6.1, 6.2.1	Vector potential expansion, Magnetization
6.2.2 - 6.2.3, 6.3.1 - 6.3.3	Bound currents, the H field
6.4.1	Linear magnetic media, HW Quiz (C22 - 29)
7.1.1 - 7.1.2	Ohm's law, electromotive force
7.1.3	Motional emf
7.2.1	Electromagnetic induction
	ACADEMIC CONFERENCE DAY
7.2.2	
7.2.3	
7.2.4	Energy in B fields
7.3.1 - 7.3.2	Fixing Ampere's Law, HW Quiz (C30 - 36)
7.3.3 - 7.3.4	Maxwell's equations