

PHY 3323 Schedule				
Week	Material	Reading Assignment	Homework Assignment	Special
Jan. 6	Course Introduction Syllabus, Policies	Chapter 1	Problem Set 1	
	Math Prerequisites			
Jan. 13	Math Prerequisites (cont'd)	Chapter 2.1, 2.2		
	Ch. 2: Superposition, Coulomb's Law			
	Electric fields, continuous charge distributions, field lines			
Jan. 20	Gauss's Law	Chapter 2.3	Problem Set 2	No class Jan. 20; MLK Day
	$\nabla \times \mathbf{E} = 0 \rightarrow \mathbf{E} = -\nabla V$			
	Poisson's, Laplace's equations			
	Potential of charge distributions			
Jan. 27	Boundary conditions	Chapter 2.4, 2.5		
	Work done in moving charges			
	Electrostatic energy			
	Ideal conductors			
Feb. 3	Surface charges	Chapter 3.1, 3.2	Problem Set 3	Exam 1, Friday, February 7 6:00 pm Ch. 1,2
	Capacitance and capacitors			
	Ch. 3: Laplace's equation			
	Boundary conditions and Uniqueness Theorem			
Feb. 10	Method of Images	Chapter 3.3, 3.4		
	Separation of variables in Cartesian, spherical, and cylindrical coordinates			
Feb. 17	Green's Functions	Chapter 4.1, 4.2	Problem Set 4	
	Multipole Expansions			
	Electric Dipoles and Quadropoles			
Feb. 24	Ch. 4: Dielectrics	Chapter 4.3, 4.4		
	Polarization			
	Bound charges			
Mar. 3	Internal electric fields in dielectrics	Chapters 5.1, 5.2	Problem Set 5	
	Electric displacement D			
	Theory of linear dielectrics			
Mar. 10	SPRING BREAK			
Mar. 17	Ch. 5: Magnetic fields and forces	Chapter 5.3,5.4		Exam 1, Wednesday, March 19 6:00 pm Ch 3-4
	Cyclotron Motion			
	Biot-Savart Law			

Mar. 24	$\nabla \cdot \mathbf{B}, \nabla \times \mathbf{B}$	Chapter 6.1,6.2	Problem Set 6	
	Ampere's Law			
	Charges vs. monopoles			
	Vector potential			
Mar. 31	Magnetic multipoles	Chapter 6.3		
	Ch. 6: Diamagnets and paramagnets			
	Magnetic dipoles			
Apr. 7	Magnetization	Chapter 6.4	Problem Set 7	
	Bound currents			
	Magnetic displacement, \mathbf{H}			
Apr. 14	Magnetic susceptibility			
	Ferromagnets			
Apr. 21	Review/Catch-Up			
April 29	FINAL EXAM			