Tentative Schedule

4. Electrostatics
   (a) Coulomb and Gauss’ Law Dec 8, Jan 17, Jan 19
   (b) Gauss’ theorem Jan 24
   (c) Scalar potential Jan 26
   (d) Conductors Jan 26, 31
   (e) Capacitance Jan 31, Feb 2
   (f) Current, Ohm’s Law and Circuits Feb 2, 7

5. Electrodynamics
   (a) Derivation of Maxwell’s equations Feb 7, 9
   (b) Magnetostatics Feb 14, 16
   (c) Dipole expansion, Larmor precession Feb 16
   (d) Lorentz force Feb 21
   (e) Faraday’s law Feb 21, 23
   (f) Inductance Feb 28
   (g) AC circuits Mar 1, 8
   
   *** Midterm Exam - March 6 ***

   (h) Light waves Mar 20, 21

6. Quantum Mechanics
   (a) Overview Mar 22
   (b) Complex vector space, state vectors Mar 27
   (c) Probability, measurement, operators Mar 29
   (d) Commutation relations, spin-1/2 Mar 29, Apr 3
   (e) Spin-1/2 measurement, rotations and time evolution Apr 3, 5
   (f) Two spin-1/2 particles Apr 10
   (g) General angular momenta Apr 12
   (h) Position space Apr 12
   (i) 1-dim quantum mechanics Apr 17
   (j) Uncertainty principle Apr 19
   (k) Simple harmonic oscillator, field theory Apr 24, 26