

Haverford College - Physics Department  
 Physics 102b: Classical and Modern Physics II  
 F. Crawford  
 Spring 2006 Course Schedule/Syllabus

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### Lecture Schedule

Lecture	Day	Date	Lecture Topics	Hecht Reading
0	M	Jan 16	Introduction	<i>none</i>
1	W	Jan 18	Hooke's Law; Stress and Strain; Elastic Moduli	10.1 - 10.4
2	F	Jan 20	Simple Harmonic Motion; Oscillations	10.5 - 10.8
3	M	Jan 23	Transverse, Compression Waves; Sounds Waves; Intensity	11.1 - 11.5
4	W	Jan 25	Sound Speed; Sound Level; Beats	11.6 - 11.9
5	F	Jan 27	Standing Waves; Doppler Effect	11.10, 11.11
6	M	Jan 30	Charge; Insulators and Conductors	15.1, 15.2
7	W	Feb 1	Coulomb's Law; Electric Field	15.3, 15.4
8	F	Feb 3	Electric Field; Gauss's Law	15.4 - 15.6
9	M	Feb 6	Gauss's Law; Electric Potential	15.6, 16.1
10	W	Feb 8	Electric Potential; Equipotentials	16.1, 16.2
11	F	Feb 10	Charge Distributions	16.3 - 16.6
12	M	Feb 13	Capacitors	16.7, 16.8
<b>E</b>	W	Feb 15	<b>Midterm Exam #1 - in class</b>	<i>none</i>
13	F	Feb 17	Energy in Capacitors; Electric Current	16.9, 17.1
14	M	Feb 20	Ohm's Law; Resistivity	17.1 - 17.3
15	W	Feb 22	Voltage; Energy and Power; Current Density	17.4 - 17.6
16	F	Feb 24	Internal Resistance; Resistors in Series and Parallel	18.1, 18.2
17	M	Feb 27	RC Circuits; Kirchoff's Rules	18.3 - 18.5
18	W	Mar 1	Magnets; Magnetic Fields	19.1, 19.2
19	F	Mar 3	Currents and Magnetic Fields	19.3, 19.4
-	M	Mar 6	<i>Spring Break - no class</i>	<i>none</i>
-	W	Mar 8	<i>Spring Break - no class</i>	<i>none</i>
-	F	Mar 10	<i>Spring Break - no class</i>	<i>none</i>
20	M	Mar 13	Magnetic Force on Moving Charges	19.5, 19.6
21	W	Mar 15	Faraday's Induction Law; Motional emf	20.1, 20.2
22	F	Mar 17	AC and DC Generators; Inductance; RL Circuits	20.3 - 20.7
23	M	Mar 20	EM Waves; Irradiance; Energy Quanta; Atoms and Light	22.1 - 22.7
24	W	Mar 22	EM Spectrum; Scattering; Reflection	22.8 - 22.14, 23.1 - 23.3
25	F	Mar 24	Refraction; Total Internal Reflection	23.4 - 23.6
26	M	Mar 27	Lenses; Focal Points and Focal Planes	24.1 - 24.4
<b>E</b>	W	Mar 29	<b>Midterm Exam #2 - in class</b>	<i>none</i>
27	F	Mar 31	Single and Combination Lenses	24.5, 24.6
28	M	Apr 3	Mirrors; Polarization	24.7, 25.1
29	W	Apr 5	Polarization; Young's Experiment	25.2 - 25.4
30	F	Apr 7	Interference and Diffraction	25.6 - 25.9
31	M	Apr 10	AC Current; Reactance	21.1 - 21.3
32	W	Apr 12	LCR Circuits; Impedance; Power and Resonance	21.4
33	F	Apr 14	X-rays; Radioactivity; Atomic Spectra; Radiation	27.1 - 27.9
34	M	Apr 17	Blackbody Radiation; Photoelectric Effect	28.1 - 28.4
35	W	Apr 19	Bohr Atom; Lasers	28.5 - 28.7
36	F	Apr 21	de Broglie Waves; Quantum Numbers	29.1 - 29.4
37	M	Apr 24	Zeeman Effect; Spin; Uncertainty Principle	29.5 - 29.9
38	W	Apr 26	Radioactive Decay; Half-life; Fission and Fusion	30.8 - 30.10
39	F	Apr 28	Review - <i>all course work due today</i>	<i>none</i>

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The **Final Exam** is a self-scheduled exam to be taken during the final exam period.