

Course Syllabus

The course syllabus is included below. To facilitate smaller lab groups and better learning, some labs will be accomplished in two groups. Refer to the class calendar for your specific lab day.

Lssn	Topic	Daily Reading
1	Charge model, insulators/conductors	25.1 – 25.3 784 – 796 ✓
2	Coulomb's law	25.4 796 – 802 ✓
3	Electric field introduction	25.5 – 25.6, 26.1 – 26.2 802 – 811, 817 – 824 ✓
4	Electric fields of continuous charge distributions	26.3 824 – 829 ✓
5	Capacitor introduction, charge motion	26.5 – 26.6 834 – 839 ✓
6	LAB 1 – Electron beam deflection	(Lab 1) ✓
7	Symmetry and flux	27.1 – 27.3 ✓ 850 – 861
8	Gauss's law	27.4 – 27.6 ✓ 861 – 873
9	Electric potential energy	29.1 – 29.2 901 – 909 ✓
10	GR 1	
11	Electric potential	29.4 – 29.6 910 – 920 ✓
12	Potential/field connection, equilibrium	30.1 – 30.3 933 – 941 X
13	LAB 2 – Mapping the electric potential	Lab 2
14	Current and potential	28.4, 30.4 – 30.5 890 ✓ 893, 941 – 946 ✓
15	Capacitance, energy in a capacitor	P. 946 – 948, 30.7 (951 – 954) ✓
16	Circuits introduction	31.1 – 31.3 962 – 969 ✓
17	LAB 3 – DC circuits ✓	Lab 3
18	Circuits, energy, power, batteries	31.4 – 31.6 970 – 978 ✓
19	RC circuits	31.10 985 – 989 X ✓
20	GR 2	
21	Magnetism introduction	32.1 – 32.3 997 – 1004 ✓
22	Magnetism and current, Ampere's law	32.4 – 32.6 1004 – 1017 ✓
23	Magnetic forces	32.7 – 32.8 1017 – 1026
24	LAB 4 – Thompson's e/m experiment	Lab 4
25	Induction introduction	33.1 – 33.2 1041 – 1050
26	Induction, magnetic flux, Lenz's law	33.3 – 33.4 1050 – 1056
27	Faraday's law	33.5 – 33.7 1056 – 1065 ✓
28	LAB 5 – Electromagnetic induction	Lab 5
29	Maxwell's equations, displacement current	34.1, 34.3 – 34.4 1085 – 1088, 1094 – 1102 ✓
30	Maxwell's equations	34.5 1102 – 1104 ✓ 1146 – 1148 ✓
31	Wave equation, electromagnetic waves	P. 621 – 624, 630 ✓ 632, 21.1
32	GR 3	
33	Wave optics, superposition (Open lab 7 available)	22.1 – 22.2 6684 – 692 ✓
34	Wave optics	22.4 – 22.5 695 – 702 ✓
35	Wave optics	
36	LAB 6 – Wave optics	
37	Ray optics, reflection, Snell's law	23.1 – 23.3 715 – 727 ✓
38	Ray optics, ray tracing	23.5 – 23.6 728 – 739 ✓
39	Ray optics, resolution	23.8 744 – 750 ✓
40	Review, wrap-up (Open lab 7 due)	