

Syllabus Part 1

Topic Area	Day	Material	Location
Introduction	Wed Sept 2 nd	Introduction <i>D</i> : Bouncing ball <i>R</i> : Ch1 <i>Griffith</i>	O'Neil 303
Electrostatics 1	Fri Sept 4 th	Atoms, electrons, and protons, GSP – Millikan, library tour. <i>D</i> : Fluorescent tube, charged rods <i>R</i> : 12.1 (excl. electroscopes) <i>Griffith</i>	O'Neil 303
Electrostatics 2	Wed Sept 9 th	Electric fields, Coulomb's Law, GSP – Coulomb <i>D</i> : Electric fields PhET lab <i>R</i> : 12.3, 12.4 <i>Griffith</i>	Beaven 113 computer lab
Electrostatics 3	Fri Sept 11 th	Conductors and insulators, GSP – Franklin, Van de Graaff <i>D</i> : Electroscopes, Spark generator <i>R</i> : 12.1 electroscopes, 12.2 <i>Griffith</i>	O'Neil 303
Circuits 1	Wed Sept 16 th	Voltage, current, batteries, resistors, GSP – Volta, Galvani <i>D</i> : Intro To Circuits, PhET lab <i>R</i> : 13.1 <i>Griffith</i>	Beaven 113 computer lab
Circuits 2	Fri Sept 18 th	Ohms Law <i>D</i> : Lemon battery, Ohm's law lab <i>R</i> : 13.2 <i>Griffith</i>	O'Neil 204
Circuits 3	Wed Sept 23 rd	Series and parallel lamps (qualitative) GSP – Ohm <i>D</i> : Series parallel lamps, PhET lab <i>R</i> : 13.3 <i>Griffith</i>	Beaven 113 computer lab
Circuits 4	Fri Sept 25 th	Series and parallel resistors (quantitative). <i>D</i> : Series parallel resistors lab <i>R</i> : 13.3 <i>Griffith</i>	O'Neil 204
Review class	Wed Sept 30 th	Review for Exam 1	O'Neil 303
Circuits 5	Fri Oct 2 nd	Electrical power, electricity in the home, electrical hazards, GSP – Tesla <i>R</i> : 13.4 and 13.5 <i>Griffith</i> , 26.6 <i>Giancoli</i> .	O'Neil 303
Exam	Wed Oct 7 th	Exam 1 (covering 09/02 – 10/02)	O'Neil 303

D = demonstration, *R* = reading, GSP = Great Scientist Presentation.

Griffith = *The Physics of Everyday Phenomena, sixth edition*; W. Thomas Griffith and Juliet W. Brosing.

Giancoli = *Physics for Scientists and Engineers, fourth edition*; Giancoli.

Syllabus Part 2

Topic Area	Day	Material	Location
Circuits 6	Fri Oct 9 th	Capacitors and energy storage <i>D: Make your own capacitor</i> <i>R: Capacitors.ppt</i> on Moodle	O'Neil 303
Circuits 7	Wed Oct 14 th	RC filter circuits, GSP – Tesla <i>D: PhET RC Filters</i> <i>R: Filters.doc</i> on Moodle	Beaven 113 computer lab
Circuits 8	Fri Oct 16 th	RC timing circuits <i>D: 555 Timer Lab</i> <i>R: RCccts.doc</i> on Moodle	O'Neil 204
Circuits 9	Wed Oct 21 st	Voltage Doubler and Bridges <i>D: Voltage Doubler and Bridge</i> <i>R: Lab handouts and The Wheatstone Bridge.doc</i> on Moodle	O'Neil 303
Magnetism 1	Fri Oct 23 rd	Magnetic fields from permanent magnets and electric currents <i>D: Magnetic field lines</i> <i>R: 14.1 Griffith and Magnetism and Electromagnetism.ppt</i> on Moodle.	O'Neil 204
Magnetism 2	Wed Oct 28 th	Magnetic flux and flux density. Force on a current in a magnetic field. GSP – Ampere, Lorentz, Oersted <i>D: PhET Magnets and Electromagnets Lab.</i> <i>R: 14.2 (up to: force on a charge) Griffith and Force on a Conductor.ppt</i> on Moodle.	Beaven 113
Magnetism 3	Fri Oct 30 th	Force on current due to \mathbf{B} , force on a charge due to \mathbf{B} . <i>D: DC Motors</i> <i>R: 14.2 (from: force on a charge), 14.3 Griffith and The DC Motor.ppt</i> on Moodle.	O'Neil 204
Review for Exam 2	Wed Nov 4 th	GSP – Faraday, Maxwell.	O'Neil 303
Magnetism 4	Fri Nov 6 th	Induction and Lenz Law <i>D: Falling pucks and solenoid currents</i> <i>R: 14.4 Griffith and Induced emfs.ppt</i> on Moodle.	O'Neil 303
Exam 2	Wed Nov 11 th		O'Neil 303
Magnetism 5	Fri Nov 13 th	Applications of Induction: Transformers <i>R: 14.5 Griffith and Transformers.ppt</i> on Moodle. AP – Solar Cells, Electricity in Animals	O'Neil 303

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Magnetism 6	Wed Nov 18 th	Generators. <i>D</i> : Generators and energy conversion. <i>R</i> : <i>Generators.doc</i> on Moodle. AP – Superconductivity, The Humble Photocopier.	O’Neil 303
Reserve	Fri Nov 20 th	Chemical reactions and electricity, or other. <i>D</i> : Lemon batteries and electroplating AP – Compact fluorescent, Electricity in the Brain	O’Neil 303
Presentations	Wed Dec 2 nd	AP – Particle accelerators, Wind Turbines, Magnetic Levitation. PhET Review as needed.	Beaven 113
Presentations	Fri Dec 4 th	AP – Mechanical Flashlight, Plasma TV, Hybrid Cars PhET Review as needed.	Beaven 113

D = demonstration, *R* = reading, GSP = Great Scientist Presentation (5 minutes), AP = Applications Presentation (15 minutes). *Griffith* = *The Physics of Everyday Phenomena, sixth edition*; W. Thomas Griffith and Juliet W. Brosing.