

Phys 180/ TEP 105
Class Syllabus -- Physics Content

Week 1: Introduction Preface, Design of texts	HRW Preface vii-xvi Hcht Preface v-xiii
Week 2: Charge Charge Conductors / Insulators Coulomb's Law Implications (e.s. induction)	HRW 22 Hcht 17.1-17.7
Week 3: Fields electric fields field lines & force superposition dipoles and other fields	HRW 23 Hcht 17.8-17.11
Week 4: Gauss' Law and Mathematical Repts flux Gauss' Law and conventions applications	HRW 24 Hcht 17.12
Week 5: Electric Potential energy (potential) electric potential superposition work, energy, e-field & voltage	HRW 25 Hcht 18.1-18.10
Week 6: Capacitance E-field of stored charge Def'n of capacitance practical application of circuits (!) energy micro-macro view	HRW 26 Hcht 18.11-18.13
Week 7: Current, Resistance, Batteries batteries, current, resistance drift velocity Ohm's Law Power super- & semi-conductors	HRW 28 Hcht 19
Week 8: Circuits real v. ideal batteries, resistors, capacitors and their combination loops, sums and Kirchhoff's rules measurement devices	HRW 28 Hcht 20
Weeks 9-10: Magnetism / EM interaction (if time) Magnetism E-> M M <-> E AC circuits	HRW 29-31,33 Hcht 21-23