

Physics 222 Syllabus, spring 2015 barry.stoner@cox.net 860-647-9503

- Jan 26: Chapters 13 and 15, Fluid Mechanics and Mechanical Waves
Lab: Determining discharge flow from an orifice in a tank.
- Feb 2: Chapter 16, Characteristics of Sound in Air
Lab: Determining speed of sound in air using standing waves.
- Feb 9: Chapter 17, Temperature, Thermal Expansion, Equilibrium, Gas Laws
Lab: Determining coefficients of thermal expansion.
First Exam (take home due 2/23) Chapters 13, 15, 16 and 17
- Feb 16: President's Holiday, no classes
- Feb 23: Chapters 18 and 19, Kinetic Gas Theory, First Law of Thermodynamics
Lab: Determining specific heat of solids using calorimetry.
- Mar 2: Chapter 19, Calculating Heat and Work for Various Processes
Lab: Determining the latent heat of vaporization for water.
- Mar 9: Chapter 20, The Second Law of Thermodynamics, Thermal Cycles
Lab: Determining the latent heat of fusion for water.
Second Exam (take home due 3/23) Chapters 18, 19 and 20
- Mar 16: Spring Break, no classes
- Mar 23: Chapter 21, Electric Charge and Electric Field
Lab: Determining electric field and electric potential lines.
- Mar 30: Chapters 23 and 25, Electric Potential, Resistance, Ohm's Law
Lab: Using Ohm's Law to determine voltage and resistance.
- Apr 6: Chapter 24 and 25, Capacitance, Energy Storage, Electric Power
Lab: Evaluating a resistive and capacitive DC circuit.
- Apr 13: Third Exam (in class) Chapters 21, 23, 24 and 25.
Chapter 26, Kirchhoff's Rules for DC Circuits
Lab: Applying Kirchhoff's Rules by analysis and measurement.
- Apr 20: Chapters 27 and 28, Magnetism, the Magnetic Field, the DC Motor
Lab: Exploring magnetic fields using the magnetic field balance.
- Apr 27: Chapter 29, Electromagnetic Induction and Faraday's Law
Lab: Determining Electron Mass using the Helmholtz Coils.
- May 4: Fourth Exam (in class) Chapters 26, 27, 28
Chapter 30, Inductance, EM Oscillations and AC Circuits.
Lab: Exploring RLC circuits with varying frequency source.
- May 11: Chapter 31 and 22, Maxwell's Equations and EM Waves
Lab: Determining light wave length using Young's Experiment.
- May 18: Final Exam (in class) Chapters 29, 30, 31.

Course Grading will be based 75% on exams and 25% based on laboratory reports and any other assigned homework asked to be turned in for grading.