

CH 301 Principles of Chemistry, Part 1 (52380) Spring 2010

TENTATIVE Schedule: There will be some blurring of exact dates of coverage.
I DO NOT MOVE EXAM DATES: if we haven't covered it, it won't be on that exam!!

Wed Jan 20	Introduction,
Fri Jan 22	Chapter 2 - 4: <i>(only some topics covered- you need to learn the rest yourself! Start with Ch.2)</i>
Mon Jan 25	Ch 12: The Electromagnetic Spectrum. Quanta & Photons
Wed Jan 27	Photoelectric Effect , Wave Particle Duality
Fri Jan 29	Atomic Spectra. The Bohr Model of the H atom.
Mon Feb 1	Uncertainty Principle. 1D Particle in Box
Wed Feb 3	The H atom: Atomic Orbitals , Electron Spin (<i>PREP ALEKS INITIAL ASSESSMENT DUE TONIGHT!</i>)
Fri Feb 5	Electron configuration of H and other Atoms.
Mon Feb 8	Decoding The Periodic Table: Classifications. Some Trends
<u>Wed Feb 10</u>	Further details on Ch. 12 as needed
Fri Feb 12	Ch. 13 Ionic Radius. Ionic Bonding: Ion Electron Configurations
Mon Feb 15	Lewis structures: atoms, ions, ionic compounds
Wed Feb 17	Covalent Bonding: Lewis structures: Bond Strength & Length
Fri Feb 19	Resonance, Formal Charge
Mon Feb 22	Octet Rule Violations: Expanded and Reduced Octets, Radicals
Wed Feb 24	Larger (multicentered) Molecules.
Fri Feb 26	Ch.13/14: VSEPR/VB Theory Intro.
Mon March 1	Electronegativity & Bond Polarity
Wed March 3	VSEPR/VB Multiple bonds, Is My Molecule Polar?
Fri March 5	VSEPR/VB Multi-centered species.
Mon March 8	MO Theory Intro: Homonuclear Diatomics.
<u>Wed March 10</u>	Paramagnetism and Diamagnetism.
Fri March 12	MO Theory: Heteronuclear Diatomics, Resonance (<i>You should start reviewing Ch3 now!</i>)
Mon March 15 to Fri March 19	NO CLASS. SPRING BREAK
Mon March 22	Ch. 5: Gas Laws: Boyles, Charles's Laws
Wed March 24	Avogadro's Principle, Combined Gas Law
Fri March 26	Ideal Gas Law (<i>CH301 BONUS ALEKS OBJECTIVE#1 DEADLINE DUE</i>)
Mon March 29	Gas Density, Stoichiometry in Reacting Gases (<i>PREP ALEKS 70% DEADLINE TONIGHT!</i>)
Wed March 31	Mixtures of Gases
Fri April 2	Diffusion and Effusion
Mon April 5	Kinetic Model of Gases
Wed April 7	Deviations from Ideality
Fri April 9	Ch. 16: Intermolecular Forces
Mon April 12	Applications/Effects of Intermolecular Forces (<i>You should start reviewing Ch4 now!</i>)
<u>Wed April 14</u>	Solids (<i>as time permits</i>)
Fri April 16	Ch. 9: Thermodynamics: Systems, Work, Energy. Heat; Measurement of heat. The 1st Law
Mon April 19	State Functions, Internal Energy, Enthalpy, Heat Capacity at Constant Volume, Pressure
Wed April 21	Enthalpies for Physical Processes.
Fri April 23	Chemical Reaction Enthalpies. ΔH - ΔU relation
Mon April 26	Enthalpies of Combustion. Standard Enthalpy of Formation.
Wed April 28	Hess's Law: Enthalpies of Formation. Bond Energies
Fri April 30	Ch. 10: What is Entropy? 2nd and 3rd Laws. Spontaneous changes.
Mon May 3	Calculation of ΔS . System vs. Surroundings . Equilibrium (brief introduction). Gibbs Free Energy.
<u>Wed May 5</u>	Effect of Temperature on Gibbs Free Energy
Fri May 7	Demo day. Come and see me make an idiot of myself.

EXAMS: As stipulated in the registration info, exams are 7-9pm on these dates:

WEDNESDAYS: FEBRUARY 10; MARCH 10; APRIL 14; MAY 5

FINAL EXAM: See the Registrar's website. Comprehensive.