## Generall Chemistry 1: Dr J

## Fall 2009 Approximate Class Schedule and Additional Chapter Problems

**W 8/26 (1)**

 Before class:

* Read Syllabus
* [MOODLE : Day 1 Quiz](https://moodle.csbsju.edu/login/index.php)

In class:

* Handout Workbooks, Lab Manuals
* Discuss Syllabus
* Why Shape

Home Work:

**F 8/28 (3)**

 Before class:

* Read Ch 2.1-2.6
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 1.1, 1.2, 1.3, 2.1, 2.2

In class:

* Conservation of Matter
* Atomic Theory
* The Mole

Home Work:

* Work problems: 2.17, 2.18, 2.19, 2.24, 2.34, 2.35, 2.37, 2.40, 2.42, 2.44, 2.45
* LAB 1: Synthesis of Aspirin

**T 9/1 (5)**

 Before class:

* Read Ch 1.5, 1.14 & 3.1-3.5
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 2.3, 2.4, 3.1, 3.2

In class:

* Light, Energy & Matter

 Home Work:

* Work problems: 3.25, 3.30, 3.31, 3.32, 3.33, 3.35

**R 9/3 (1)**

Before class:

* Read Ch 3.6-3.10
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 3.3, 3.4

In class:

* Quantum Numbers & Atomic Orbitals

Home Work:

* Work problems: 3.29, 3.50, 3.51, 3.53, 3.57, 3.64, 3.65

**W 9/8 (3)**

Before class:

* Read Ch 3.11-3.14
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 3.5, 3.6

In class:

* Atomic Orbitals & Electronic Configurations
* Coulomb’s Law

Home Work:

* Work problems: 3.23, 3.24, 3.26, 3.27, 3.66, 3.69, 3.70, 3.71, 3.73, 3.79, 3.82

LAB2: Analysis of Aspirin

**R 9/10 (5)**

Before class:

* Read Ch 2.7, 4.1 & 5.1
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 3.7-3.10

In class:

* Isotopes
* Introduction to Ionic and Covalent Bonding

 Home Work:

* Work problems: 2.57, 4.30, 4.38, 4.39

**M 9/14 (1)**

Before class:

* Read Ch 4.2-4.6 and page 141
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 4.1-4.3

In class:

* Ionization Energy, Electron Affinity & Electronegativity Periodic Trends

Home Work:

* Work problems: 3.83, 4.40, 4.41, 4.42, 4.43, 4.46, 4.47, 4.50, 4.51, 4.52, 4.54, 4.55, 4.56, 4.57, 4.59, 5.44, 5.46, 5.47

**W 9/16 (3)**

Before class:

* Read Ch 4.7-4.10 & 10.8-10.10
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 4.4-4.5
* Note: 4.10 will not be covered in class. There will, however, be a quiz on the nomenclature of ionic compounds on Friday, September 18 – Practice problems: 4.74, 4.75, 4.78, 4.79

In class:

* Octet Rule, Ionic Solids & Unit Cells

Home Work:

* Work problems: 4.33, 4.35, 4.60, 4.61, 4.91, 10.23, 10.24, 10.70, 10.71, 10.73

LAB 3: Periodic and Spectroscopic Properties of Gp 2A Elements

**F 9/18 (5)**

Before class:

* Read – **Note: book does not have a section on this so this is a gap that needs to be filled**
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 4.6

In class:

* More on Unit Cells
* Properties of Ionic Compounds

 Home Work:

* Work problems: 10.75, 10.76, 10.81

**T 9/22 (1) B mode**

Before class: **Day 6 Meeting?**

* Read 21.4 (only section “Electron-Sea Model of Metals” on page 868-869)
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 4.8

In class:

* Quiz – Naming Ionic Compounds (MOODLE - CHEM TUTOR 4.9-4.10)
* More Properties of Ionic Compounds & Metallic Bonding

Home Work:

* Work problems:

**R 9/24 (3)**

Before class:

* Review for Exam I

In class:

* **Exam I**

LAB 4: Activity Series of Metals

**M 9/28 (5)**

Before class:

* Read Ch 5.1-5.7
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 5.1-5.4

In class:

* Covalent Bonding, Nomenclature, Lewis Structures

 Home Work:

* Work problems: 5.44, 5.46, 5.48, 5.50, 5.116, 5.52, 5.126.

**W 9/30 (1)**

Before class:

* Read Ch 5.7-5.9
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 5.5-5.6

In class:

* Lewis Structures & Formal Charges,

Home Work:

* Work problems: 5.56, 5.58, 5.60, 5.64, 5.66, 5.102, 5.112, 5.70, 5.72, 5.106.

**F 10/2 (3)**

Before class:

* Read Ch 5.10
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 5.7-5.8

In class:

* Molecular Shapes, Introduce spx hybrid labels

Home Work:

* Work problems: 5.38, 5.40, 5.42, 5.74, 5.76, 5.78 a c d, 5.80 a b, 5.82 a c d e f, 5.84, 5.86, 5.88, 5.108, 5.110, 5.124.

LAB ACTIVITIES

**T 10/6 (5)**

Before class:

* Read 10.1

In class:

* More on Molecular Shapes: Polarity

Home Work:

* Work problems: 10.22, 10.32, 10.38, 10.40, 10.96.
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 5.9

**OCT 8-11 FREE DAYS**

**M 10/12 (1)**

Before class:

* Read Ch 10.2-10.3
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 6.1-6.3

In class:

* Properties of Molecules: Intermolecular Forces, Viscosity, Surface Tension, Vapor Pressure, Boiling Point, Melting point

Home Work:

* Work problems: 10.30, 10.34, 10.36, 10.42, 10.116.

**W 10/14 (3)**

Before class:

* Read 11.1, 11.2 (pp. 390-391, Worked Example 11.1 on p. 394),   
  11.4 (pp. 399-402, skip calculations).
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 6.4-6.5

In class:

* Properties of Molecules: Miscibility, Solubility, Colligative Properties

Home Work:

* Work problems: 11.1, 11.2, 11.38, 11.40, 11.44

LAB 5: Solid State Crystals

**F 10/16 (5)**

Before class: **Day 6 Meeting?**

* Read Ch 5.11, 5.14-5.1
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 7.1-7.2

In class:

* Molecular Orbital (MO) Theory: Homonuclear Diatomics, HF, CO, Spartan

Home Work:

* Work problems ####

**T 10/20 (1) C mod**

Before class:

* Read ????
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 7.3-7.4

In class:

* MO Theory: Polyatomics

Home Work:

* Work problems ####

**R 10/22 (3)**

Before class:

* ????????

In class:

* MO Theory: More polyatomics

Home Work:

* Work problems ####

LAB 6: Spectroscopy and Chromatography of Food Dyes

**M 10/26 (5)**

Before class:

* Review for Exam II

In class:

* **Exam II**

**W 10/28 (1)**

Before class: **Day 6 Meeting?**

* Read [Conformational Analysis](http://employees.csbsju.edu/cschaller/Principles%20Chem/conformation/conf%20index.htm): CA1-CA3
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 8.1-8.2

In class:

* Conformational Analysis of Acyclic Molecules

Home Work:

* Work problems ####

**F 10/30 (3)**

Before class:

* Read [Conformational Analysis](http://employees.csbsju.edu/cschaller/Principles%20Chem/conformation/conf%20index.htm): CA4-CA5

In class:

* More on Acyclic Conformations

Home Work:

* Work problems ####

LAB 7: Quantitative Aspects of Chemistry

**W 11/3 (5)**

Before class:

* Read [Conformational Analysis](http://employees.csbsju.edu/cschaller/Principles%20Chem/conformation/conf%20index.htm): CA6-CA9
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 8.3

In class:

* Cyclic Conformations

Home Work:

* Work problems ####

**F 11/5 (1) Day 6 Meeting?**

Before class:

* Read [Conformational Analysis](http://employees.csbsju.edu/cschaller/Principles%20Chem/conformation/conf%20index.htm): CA10-CA13

In class:

* More on Cyclic Conformations

Home Work:

* Work problems ####

**M 11/9 (3)**

Before class:

* Read 20.8
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 9.1-9.2

In class:

* Cis and Trans Isomers

Home Work:

* Work problems ####

LAB 8: Molecular Modeling

**W 11/11 (5) Day 6 Meeting?**

Before class:

* Read SC1-2,15-17
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 9.3-9.4

In class:

* Isomers of Square Planar and Octahedral Compounds

Home Work:

* Work problems ####

**F 11/13 (1) D mod**

Before class:

* Read [Stereochemistry](http://employees.csbsju.edu/cschaller/Principles%20Chem/stereochem/stereo_index.htm): SC3-SC7
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 9.5

In class:

* Stereochemistry (R/S)

Home Work:

* Work problems ####

**T 11/17 (3) Day 6 Meeting?**

Before class:

* Read [Stereochemistry](http://employees.csbsju.edu/cschaller/Principles%20Chem/stereochem/stereo_index.htm): SC8-SC11

In class:

* Applications and Properties of Shape

Home Work:

* Work problems ####

LAB 9: Periodic Trends in Acid/Base Properties.

**R 11/19 (5)**

Before class:

* Read [Stereochemistry](http://employees.csbsju.edu/cschaller/Principles%20Chem/stereochem/stereo_index.htm): SC12-SC14, SC19

In class:

* Applications and Properties of Shape

Home Work:

* Work problems ####

**M 11/23 (1)**

Before class:

* Review for Exam III

In class:

* **Exam III**

**THANKSGIVING BREAK: 11/25-11/29**

**M 11/30 (3) Day 6 Meeting?**

Before class:

* Read 14.16, [Concepts of Acidity](http://employees.csbsju.edu/cschaller/Principles%20Chem/acidity/acid%20index.htm): AB1-AB3
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 10.1-10.2

In class:

* Lewis Acids & Bases

Home Work:

* Work problems ####

LAB 10: Acid/Base Extraction

**W 12/2 (5)**

Before class:

* Read [Concepts of Acidity](http://employees.csbsju.edu/cschaller/Principles%20Chem/acidity/acid%20index.htm): AB4-AB6

In class:

* More on Lewis Acids & Bases

Home Work:

* Work problems ####

**F 12/4 (1)**

Before class:

* Read 7.5, [Concepts of Acidity](http://employees.csbsju.edu/cschaller/Principles%20Chem/acidity/acid%20index.htm): AB7-AB9
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 10.3

In class:

* Proton Transfer Reactions

Home Work:

* Work problems ####

**T 12/8 (3)**

Before class:

* Read 14.15, 13.1 & 13.6, [Concepts of Acidity](http://employees.csbsju.edu/cschaller/Principles%20Chem/acidity/acid%20index.htm): AB10-AB13
* [MOODLE - CHEM TUTOR](https://moodle.csbsju.edu/login/index.php): 10.4

In class:

* Qualitative Understanding of pKa & Introduction to Equilibria

Home Work:

* Work problems ####

LAB ACTIVITIES

**R 12/10 (5)**

Before class:

* Read [Concepts of Acidity](http://employees.csbsju.edu/cschaller/Principles%20Chem/acidity/acid%20index.htm): AB14-AB18

In class:

* Equilibrium, direction of transfer, buffers