CHEMISTRY 102B/102C
FALL 2014 ASSIGNMENTS

WEEK 1
(August 26-29)

Lecture: Tuesday  Discussion: Wednesday
Topics: Introduction, Classification of Matter, Significant Figures
Reading: Zumdahl*, Chapter 1.1-1.2, 1.5, 1.10, Appendix A1.1
Course Policy (accessed on our Chem 102B/102C website)
Problems: Zumdahl, Chapter 1:  17, 19, 26, 29, 31, 79, 81, 83, 85-87, 96
Review Questions: Zumdahl, Chapter 1:  1, 9

Lecture: Thursday  Discussion: Friday
Topics: Measurements - Units, Significant Figures, Dimensional Analysis, Density, Dalton’s Atomic Theory
Reading: Zumdahl, Chapter 1.3-1.7, 1.9; 2.1-2.4
Problems: Zumdahl, Chapter 1:  21-23, 33-36, 37(a,b,e,f), 41, 42, 51, 54, 56, 69-72, 77, 98, 99
Chapter 2:  41, 42
Review Questions: Zumdahl, Chapter 1:  5-7
Chapter 2:  1(a,b)

WEEK 2
(September 2-5)

Lecture: Tuesday  Discussion: Wednesday
Topics: Subatomic Particles, Isotopes, Nomenclature, Periodic Table
Reading: Zumdahl, Chapter 2.4-2.8
Problems: Zumdahl, Chapter 2:  21-25, 28, 29, 31, 32, 53, 56, 57, 61, 65, 67, 69, 71-78, 80, 85, 87, 92, 93, 97-100, 114, 115
Review Questions: Zumdahl, Chapter 2:  4-10

Lecture: Thursday  Discussion: Friday
Reading: Zumdahl, Chapter 3.1-3.5, 3.8-3.9; Handouts Book, p. 41
Problems: Zumdahl, Chapter 3:  25, 37, 39, 45, 46, 65, 67, 77, 96, 101, 102, 129, 130, 135, 140
Zumdahl, Chapter 6:  43, 45(a,b)
Review Questions: Zumdahl, Chapter 3:  1-4

*Chemistry by Zumdahl & Zumdahl (Ninth Edition)
WEEK 3
(September 9-12)

Lecture: Tuesday  
Topics: Electromagnetic Radiation, Atomic Spectra, The Bohr Model,  
The Quantum Mechanical Model
Reading: Zumdahl, Chapter 7.1-7.5
Problems: Zumdahl, Chapter 7: 20, 23, 24, 34, 45-48, 57c, 59, 64, 65, 67, 139-141
Review Questions: Zumdahl, Chapter 7: 1-3

Lecture: Thursday  
Topics: Orbitals and Electronic Structure, The Periodic Table
Reading: Zumdahl, Chapter 7.6-7.11
Problems: Zumdahl, Chapter 7: 28, 35, 71, 76, 80, 83, 84, 87, 89, 91, 93, 98-102,  
132, 144, 145, 148  
Chapter 8: 46  
Handouts Book, p. 61: Ion configuration problems at bottom of the page.
Review Questions: Zumdahl, Chapter 7: 6-8

WEEK 4
(September 16-19)

Lecture: Tuesday  
Topics: Periodic Properties
Reading: Zumdahl, Chapter 7.12-7.13, 8.4
Problems: Zumdahl, Chapter 7: 30, 31, 105, 107, 109, 110, 112-115, 120, 125,  
149, 150  
Chapter 8: 21, 41, 51-53, 127
Review Questions: Zumdahl, Chapter 7: 9, 10  
Chapter 8: 2

Lecture: Thursday  
Topics: Introduction to Bonding, Lewis Structures, Nonoctets, Resonance
Reading: Zumdahl, Chapter 8.1-8.3, 8.9-8.12
Problems: Zumdahl, Chapter 8: 16, 17, 19, 24, 27, 33-35, 37, 38, 43, 48, 81-91,  
94, 97, 107, 131, 134  
Handouts Book, p. 70: Complete the Lewis structures for the organic  
compounds listed on the bottom of this page.
Review Questions: Zumdahl, Chapter 8: 1, 5, 6
WEEK 5
(September 23-26)

Lecture: Tuesday  
Topics: Formal Charge, VSEPR, Polarity
Reading: Zumdahl, Chapter 8.2, 8.3, 8.12, 8.13
Problems: Zumdahl, Chapter 8: 15, 20, 26, 39, 40, 104-106, 111-121, 123-126, 157
Review Questions: Zumdahl, Chapter 8: 8-10

Discussion: Wednesday

Lecture: Thursday  
Topics: Hybrid Orbitals, Delocalization
Reading: Zumdahl, Chapter 9.1, 9.5
Problems: Zumdahl, Chapter 9: 6, 9, 11, 12, 16-22, 27, 28, 31, 39, 61, 66, 67, 87, 100
Review Questions: Zumdahl, Chapter 9: 1-4, 10

Discussion: Friday

WEEK 6
(September 30-October 3)

Lecture: Tuesday  
Topics: Catch-up and Review for Hour Exam I
Hour Exam I: 7:00 p.m. Wednesday, October 1 (location to be announced.)

Discussion: Wednesday

Lecture: Thursday  
Topics: States of Matter, Intermolecular Forces and Physical Properties
Reading: Zumdahl, Chapter 10.1-10.2, 10.8 (vapor pressure discussion only)
Problems: Zumdahl, Chapter 10: 5, 10-14, 21, 27, 35, 37, 39-41, 111, 132
Review Questions: Zumdahl, Chapter 10: 1

Discussion: Friday
### WEEK 7  
(October 7-10)

**Lecture: Tuesday**  
Topics: Formula Calculations - Percent Composition, Empirical and Molecular Formulas

**Discussion: Wednesday**  
Reading: Zumdahl, Chapter 3.6-3.7

**Problems:**  
Zumdahl, Chapter 3: 27, 28, 79-82, 86, 89, 90, 93, 94, 137, 139, 143, 175

**Review Questions:**  
Zumdahl, Chapter 3: 5, 6

**Lecture: Thursday**  
Topics: Chemical Reactions, Stoichiometry - Mole and Mass Relations, Limiting Reagents

**Discussion: Friday**  
Reading: Zumdahl, Chapter 3.8-3.11

**Problems:**  
Zumdahl, Chapter 3: 30, 33, 34, 106, 113, 115-117, 121, 124-126, 147, 164, 181

**Review Questions:**  
Zumdahl, Chapter 3: 7-10

### WEEK 8  
(October 14-17)

**Lecture: Tuesday**  
Topics: Solutions: Concentration Units, Electrolytes, Reactions in Solution

**Discussion: Wednesday**  
Reading: Zumdahl, Chapter 4.1-4.6

**Problems:**  
Zumdahl, Chapter 4: 13, 15-19, 24, 29, 31, 33, 34, 37, 39, 43, 45, 47, 49-51, 53, 66*, 67*, 92

**Review Questions:**  
Zumdahl, Chapter 4: 1-7

*For Exercises 4.66 and 4.67, only give the balanced formula equations.

**Lecture: Thursday**  
Topics: Solution Stoichiometry

**Discussion: Friday**  
Reading: Zumdahl, Chapter 4.7-4.8

**Problems:**  
Zumdahl, Chapter 4: 20, 56, 57, 61, 63, 74, 75, 77, 95, 103, 105, 106, 133, 136, 137

**Review Questions:**  
Zumdahl, Chapter 4: 8
WEEK 9  
(October 21-24)

**Lecture: Tuesday**  
Topics: Gases - P, V, T Relationships, Ideal Gas Law, Stoichiometry, Partial Pressures

**Discussion: Wednesday**

Reading: Zumdahl, Chapter 5.1-5.5, Appendix A1.3

Problems: Zumdahl, Chapter 5: 23-26, 28, 31, 43, 46, 54, 55, 57, 60, 67, 73, 77-79, 81, 82, 85, 91, 93, 123, 124, 134

Review Questions: Zumdahl, Chapter 5: 1-5

**Lecture: Thursday**

Topics: Kinetic Molecular Theory, Real Gases

**Discussion: Friday**

Reading: Zumdahl, Chapter 5.6-5.9

Problems: Zumdahl, Chapter 5: 29, 32-34, 105-107, 109-112, 114

Review Questions: Zumdahl, Chapter 5: 6-10

WEEK 10  
(October 28-31)

**Lecture: Tuesday**

Topics: Catch-up and Review for Hour Exam II

**Discussion: Wednesday**

**Hour Exam II:** 7:00 p.m. Wednesday, October 29 (Location to be announced.)

**Lecture: Thursday**

Topics: Chemical Equilibrium

**Discussion: Friday**

Reading: Zumdahl, Chapter 13.1-13.4

Problems: Zumdahl, Chapter 13: 11-14, 21, 23, 25, 27, 29, 33, 35, 37, 38, 43, 44

Review Questions: Zumdahl, Chapter 13: 1-5

REST TO COME LATER IN THE SEMESTER