

Principles of Chemistry I (Chemistry 211) and
Chemistry I Laboratory (Chemistry 213)
Fall 2009

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Location: Seymour High School 10 Circle Drive Seymour, WI 54165

Dates: September 1, 2009 – June 8, 2010

Credits: Chemistry 211 (4 credits) / Chemistry 213 (1 credit)

Course Description: This chemistry course is designed to be the equivalent of the General Chemistry course taken at UWGB. This course provides the student opportunity to develop their ability to think clearly and to express their ideas, orally and in writing, with clarity and logic. A strong emphasis is placed on lab work, chemical calculations, and the mathematical formulation of principles. This course covers an increased number of topics and a variety of laboratory experiments.

Materials:

Text: Zumdahl, S.S. Chemistry, 6th edition. Houghton Mifflin, New York. 2003

Lab Manuals: (1) Vonderbrink, S.A. Laboratory Experiments for Advanced Placement Chemistry. Flinn Scientific, Inc. Batavia IL. 1995 (2) Hall, J.F. Experimental Chemistry. Houghton Mifflin, New York. 2003

Calculator: Calculator must have the capabilities for scientific notation and logarithmic functions.

Information and Recommendations:

Lecture:

-Lecture notes will be discussed at the start of each chapter. Lectures will cover major topics or those with difficult concepts or mathematics. Students will be expected to read the textbook in order to learn all chemistry concepts.

Assignments:

-Problems sets will be assigned at the beginning of each chapter and will be corrected at the end of the chapter. Assignments will make up 15% of your overall quarter grade.

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Quizzes:

-A quiz will be given at the end of each chapter. The quizzes will include conceptual and calculation based problems. Quizzes will make up 25% of your overall quarter grade.

Laboratory:

-Lab experiments will coordinate with chapter content. Typical labs will extend several days in length due to the limited class length. Lab reports will be submitted within 1 week of lab completion. Laboratory will make up 100% of your Chemistry 213 grade. Unsafe laboratory behavior will be a factor in successful completion of chemistry. Lab rule violations may result in dismissal from chemistry.

Tests:

-Tests will be given at the end of each quarter. Material will be derived from the chapters covered in that particular quarter. The quarter tests will make up 60% of your overall quarter grade. A cumulative written final and a laboratory final will be given upon completion of the course and will be 20% of your overall final grade.

Attendance:

-Due to the nature of this course, attendance is extremely important. More than 9 absences will result in an incomplete grade. Make up hours can be negotiated under extenuating circumstances. Students with excessive tardiness or those reporting to class unprepared will receive a grade deduction and/or be required to make up time outside of the normal student day.

Grading Scale:

-The grading scale for this course is based off of UWGB's scale. Slight variations may exist because of the +/- grading scale used in the high school.

A	100-93
AB	92.9-87
B	86.9-81
BC	80.9-75
C	74.9-69
CD	68.9-64
D	63.9-58

**Principles of Chemistry I
Course Outline**

Zumdahl 6th edition Chapters 1-11

1st Quarter (September 1st – November 6th)

Chapter 1 – Chemical Foundations

Labs: Density; Mixture Resolution III (Chromatography)

Problems: 24 – 70 even

Chapter 2 – Atoms, Molecules and Ions

Labs: Representative Elements

Problems: 26 – 88 even

Chapter 3 – Stoichiometry

Labs: Analysis of a Silver Alloy

Problems: 28 – 106 even

(First Quarter Exam)

2nd Quarter (November 9th – January 22nd)

Chapter 4 – Types of Chemical Reactions and Solution Stoichiometry

Labs: Predicting the Products of Chemical Reactions and Writing
Chemical Equations; Stoichiometry of an Acid Base Titration; Analysis of
Commercial Bleach

Problems: 18 – 76 even

Chapter 5 – Gases

Labs: Determination of the Molar Mass of a Volatile Liquid

Problems: 28 – 90 even

Chapter 6 – Thermochemistry

Labs: Enthalpy of a Reaction and Hess's Law

Problems: 18 – 74 even

(Second Quarter Exam)

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3rd Quarter (January 25th – March 26th)

Chapter 7 – Atomic Structure and Periodicity

Labs: Analysis of a metal carbonate

Problems: 32 – 110 even

Chapter 8 – Bonding

Labs: Determining Molecular Shape

Problems: 24 – 104 even

Chapter 9 – Covalent Bonding

Labs: Synthesis of Alum; Analysis of Alum

Problems: 16 – 20, 28 - 52

(Third Quarter Exam)

4th Quarter (April 5th – June 8th)

Chapter 10 – Liquids and Solids

Labs: Intermolecular Forces with Liquids

Problems: 30 – 52, 62, 66, 68, 72, 74, 80 – 96 even

Chapter 11 – Properties of Solutions

Labs: Determination of Molar Mass by Freezing Point Depression

Problems: 26 – 76 even

(Fourth Quarter Exam)

(Cumulative Written Exam)

(Laboratory Final Exam)