

PRINCIPLES OF CHEMISTRY I

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| Course Title: | Principles of Chemistry I, (CHEM 211) |
| Semester: | Fall 2009 |
| Credits: | 4 undergraduate credits |
| Instructor: | Mrs. Julie Retza |
| Email: | Retza@crivitz.k12.wi.us |
| Office Hours: | 7:30 – 8:00 am M – F Room C-134 |
| Building/Room: | Room C-134 Crivitz High School |
| Dates: | September 1, 2009 – June 3, 2010 |
| Time: | 2:25 – 3:13 pm M, T, TH, & F |

COURSE DESCRIPTION:

Atoms, molecules, ions, mass relationships, chemical reactions, gases, thermochemistry, quantum theory, atomic structure, periodic relationships, ionic bonding, covalent bonding, molecular geometry, hybridization, intermolecular forces, and an introduction to organic chemistry will be topics covered during this course.

REQUIRED MATERIALS:

1. General Chemistry, 8th edition, Ebbing and Gammon, Houghton Mifflin Company Publisher
2. Safety Goggles
3. A carbonless, 100 page, duplicating laboratory notebook
4. Calculator with capabilities for exponents, square roots, trig functions, and logarithms

OPTIONAL MATERIALS:

1. Study Guide to accompany text
2. Student solutions manual

COURSE INFORMATION:

Lecture and textbook: During lecture, I will cover the topics in the reading using notes, discussion, and demonstrations. You will find it useful to have read the assigned reading prior to coming to class. You are responsible for taking your own notes during class. The Summary at the end of the chapter will indicate the important concepts from the reading to help you study.

EduSpace: This is an online tool to help you learn the concepts. This tool includes video demonstrations of concepts, practice problems, and a tutor. You will also be able to post questions about the course content on a bulletin board for your classmates or Mrs. Retza to answer.

Suggested Problems: These problems will not be graded. You will find it helpful to do these problems and make sure that you understand how to solve them. Similar types of problems will show up on the quizzes and tests throughout the year. The answers to the odd numbered problems are in the back of your textbook. If you are unsure on how to solve a problem please ask.

The best way to learn chemistry is by working problems while you are reading the text, and after lecture to make sure you understand a concept. In order to excel in this class, you must solve problems.

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Quizzes: Quizzes will be given weekly, usually on Friday, and count toward your final grade. These quizzes are used to measure your progress. Quizzes will be given through Eduspace and you will have the weekend to finish them.

Problem Day: Thursdays are designated for problem solving. We will work problems in assigned groups. Usually if you can explain a concept to another person, you understand the concept. This will be our time in class to utilize each other's knowledge and understanding.

Demonstrations: When possible, demonstrations will be used to illustrate a point during lecture. Make careful observations during demonstrations and ask questions if you do not understand what occurred. These concepts may show up during quizzes or tests.

Exams: There will be an exam after each chapter. You will have one 45 minute period to complete the exam. Exams will cover concepts from lecture, demonstrations, and labs. There will be objective questions (multiple choice and true/false) and problem solving questions.

You will have 90 minutes to complete the semester exams. There will be a semester exam in January covering chapters 1-6, and a comprehensive final exam in May covering chapters 1-11, 24. **You may not be exempt from the semester and final exams.**

Grades: Your grade is determined by the work you do, not other students in the class. There will be no curves. The grade breakdown for this course is as follows:

UW – Green Bay Grading Scale

| Grade Point Values | | |
|--------------------|---------------|-------------------------|
| Letter Grade | Text | Grade Points per Credit |
| A | Excellent | 4.0 |
| AB | Very Good | 3.5 |
| B | Good | 3.0 |
| BC | Above Average | 2.5 |
| C | Average | 2.0 |
| CD | Below Average | 1.5 |
| D | Poor | 1.0 |
| F | Unacceptable | 0.0 |

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Schedule

| Topics | Suggested Problems |
|---|--|
| Safety | Week 1: 31, 33, 87, 89 |
| Chapter 1 – Chemistry and Measurement | Week 2: 35, 37, 39, 41, 45, 47, 49, 51, 55, 59, 63, 65, 95, 97 Week 3: 67, 69, 71, 73, 75, 77, 79, 81, 83, 99, 137, 141 |
| Chapter 2 – Atoms, Molecules, and Ions | Week 4: 35, 37, 39, 41, 43, 45, 47, 49, 97, 99 Week 5: 51, 53, 55, 59, 61, 65, 67, 69 Week 6: 71, 73, 75, 77, 79, 83, 85, 87, 89, 91, 93, 95, 129 |
| Chapter 3 – Calculations with Chemical Formulas and Equations | Week 7: 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 51, 53, 55 Week 8: 57, 59, 61, 63, 65, 67, 69, 93, 95, 97 Week 9: 77, 79, 81, 83, 85, 87, 91, 101, 103, 105, 107, 115 |
| Chapter 4 – Chemical Reactions | Week 10: 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47 Week 11: 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71 Week 12: 73, 75, 77, 79, 81, 83, 85, 87, 137, 139 |
| Chapter 5 – The Gaseous State | Week 13: 31, 33, 35, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 Week 14: 67, 69, 71, 73, 75, 77, 79, 81 Week 15: 83, 85, 87, 89, 91, 93, 95, 123, 129, 133 |
| Chapter 6 – Thermochemistry | Week 16: 37, 39, 41, 43 Week 17: 45, 47, 49, 51, 53, 55, 57, 59, 61, 63 Week 18: 65, 67, 69, 71, 73, 75, 77 |
| Semester Exam | Chapters 1-6 |
| Chapter 7 – Quantum Theory of the Atom | Week 19: 29, 31, 33, 35, 37, 39 Week 20: 43, 45, 47, 49, 51, 53, 55 Week 21: 63, 81, 83, 89, 91 |
| Chapter 8 – Electron Configurations and Periodicity | Week 22: 35, 37, 39, 41, 43, 45, 47, 49 Week 23: 51, 53 Week 24: 55, 57, 59, 61, 88 |
| Chapter 9 – Ionic and Covalent Bonding | Week 25: 33, 35, 37, 39, 41, 43 Week 26: 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67 Week 27: 71, 73, 75, 77, 79, 105, 113 |
| Chapter 10 – Molecular Geometry and Chemical Bonding Theory | Week 28: 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49 Week 29: 51, 53 Week 30: 55, 57 |
| Chapter 11 – States of Matter; Liquids and Solids | Week 31: 37, 39, 41, 43, 45, 47, 49, 51 Week 32: 53, 55, 57, 59, 61, 63, 67, 69, 71, 73, 75, 77 Week 33: 79, 81 |
| Chapter 24* – Organic Compounds | Week 34: 25, 27, 29, 31 Week 35: 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55 Week 36: 57, 59, 61, 63, 65, 67 |
| Senior Final Exam | Chapters 1 -11 and part of 24 |
| Final Exam | Chapters 1-11, 24 |

* Seniors who graduate early will not finish this chapter. The final exam will cover the portion of the chapter that is completed.