

**GENERAL CHEMISTRY
CHEM 1010-1
AUTUMN, 2010**

Instructor: Dr. Scott D. Pegan
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Text: Chemistry, 5th Edition, Silberberg
Lectures: 9-9:50 am, MWF, Olin 105
Discussion: 9-9:50 am, T, Olin 105
Office Hours: 10:30-11:30, T SGM 251

Exams: There are 3 X 1 h midterm exams during the quarter, plus a 2 h cumulative final exam. Each exam is worth 100 points. Exam questions will be similar to the problems assigned as homework and problems worked in class.

If you miss a 1 h midterm exam, then your final exam will be counted twice and replace the missed midterm exam. With one exception, **THERE WILL BE NO MAKEUP EXAMS**. The only exceptions to the no-makeup policy will be for members of a university team or group, e.g. athletic team or music group scheduled to be away from campus at the time of the exam, and members of the U.S. Armed Forces with conflicting obligations. You must inform your instructor of this prior to the exam and make arrangements at that time for a makeup exam.

If you take all 3 midterm exams and your grade on the final exam is better than one of your midterm exam grades, then your final exam will be counted twice and replace your lowest midterm exam grade.

There are 10 quizzes that will be administered during discussion periods. Your top 8 scores will count towards your grade, i.e. your 2 lowest quiz grades will be dropped. Homework problems will be assigned during lecture and will be collected. Points will be given for completing the assignment on time without grading the homework problems.

Grading: Midterm Exams 300 points
Final Exam 100 points
Quizzes 80 points (10 pts per Quiz)
Homework 40 points (4 pts per set; See Homework Sheet)
Clicker 80 points (This is a Clicker Enabled Course)
<http://portfolio.du.edu/click>

The assignment of a letter grade to a given numerical grade will depend on the overall class performance. However, if everybody does well, grades will not be curved down. **Also, note that points will be deducted from your final grade for disruptive behavior.**

DATE TOPIC**READING****WEEK 1**

Sep 13 Intro. into class
14 Discussion, Quiz, Homework Ch 1-3
15 Nature of light
17 Wave-Particle/Quantum-Mechanical

Ch1-3
Ch7.1-7.2
Ch7.3-7.4

WEEK 2

Sep 20 Periodic table
21 Discussion, Quiz, Homework Ch 7
22 Atomic properties
24 Chemical reactivity

Ch8.1-8.2
Ch8.3-8.4
Ch8.5

WEEK 3

Sep 27 Chemical Bonds
28 Discussion, Quiz, Homework Ch 8
29 Covalent bond
Oct 1 **EXAM 1**

Ch9.1-9.2
Ch9.3-9.6

WEEK 4

Oct 4 Lewis structures
5 Discussion, Quiz, Homework Ch 9
6 VSEPR
8 Shape & polarity

Ch10.1
Ch10.2
Ch10.3

WEEK 5

Oct 11 Valence bond theory
12 Discussion, Quiz, Homework Ch 10
13 Molecular orbital theory*
15 Water as a solvent*

Ch11.1-11.2
Ch11.3
Ch4.1-4.2

WEEK 6

Oct 18 Precipitation reactions
19 Discussion, Quiz, Homework Ch 11
20 **EXAM 2**
22 Oxidation-reduction reactions

Ch4.3-4.4
Ch4.5-4.6

WEEK 7

Oct 25 Acids and bases in water	Ch18.1-18.2
26 Discussion, Quiz, Homework Ch 4	
27 Bronsted-Lowry	Ch18.3-18.4
29 Weak bases/weak acids	Ch18.5

WEEK 8

Nov 1 Redox Reactions	Ch21.1
2 Discussion, Quiz, Homework Ch 18	
3 Voltaic cells	Ch21.2-21.3
5 Forms of energy	Ch6.1-6.2

WEEK 9

Nov 8 Calorimetry	Ch6.3-6.4
9 Discussion, Quiz, Homework Ch 21	
10 Hess's Law	Ch6.5-6.6
12 EXAM 3	

WEEK 10

Nov 15 Entropy	Ch20.1-20.2
16 Discussion, Quiz, Homework Ch 6	
17 Calculating entropy change	Ch2-20.3

WEEK 11

Nov 21 **FINAL EXAM** (comprehensive), 10-11:50 am, Olin 105