Chaminade University of Honolulu, Spring 2015
CH 204 GENERAL CHEMISTRY II
Syllabus

Instructor: Mr. William F. Bow
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Lecture section: 01
MWF 9:30-10:20 AM, WESS 120, 4th hour
Office Hours: T, W, R 12:30 - 2:30 PM or by appt.

Required Materials:
- Textbook: Zumdahl, "Chemistry" 9th ed., Brooks/Cole, 2014.
- Scientific calculator
- Access to Online: https://www.edmodo.com (Group Code: 2nw23p)

Course Description and Objectives:

CH 204 is the second half of a two semester, college-level general chemistry course. In class, we will discuss the basic concepts of chemistry with an emphasis on problem solving. CH 203/204 is suitable for students planning careers in science, medicine, engineering or other areas requiring an extensive background in chemistry. The class periods will consist of lecture/discussion with an emphasis on problem solving, and so it is important that you bring a calculator and writing materials to each meeting. *4 credits*

Prerequisites: Completion of MA 110, CH203/203L with a grade of C or higher
Concurrent registration: CH 204L required

Upon successful completion of CH 204, the student will demonstrate the ability to:

- Explain the differences in ionic and covalent bonding in compounds.
- Draw electron dot structures for simple molecules.
- Describe the molecular geometry of simple molecules.
- Determine orbital hybridization of simple molecules.
- Discuss the properties of solids, pure liquids, and solutions
- Perform rate law calculations
- Calculate an equilibrium constant
- Calculate a solubility product constant
- Perform pH calculations
- Balance redox reactions
- Calculate standard electrode potentials.

Homework: Homework problems from each chapter will be assigned (in-class or online) and done on paper which can be turned in. They will be due in class and graded by specific dates (to be announced).

Quizzes: There will be quizzes given this semester and taken in class. The dates of each quiz will be announced at least one lecture prior. Quizzes will cover chapter material and will generally be given after a homework assignment is due; *these quizzes will be based on the homework.*

Midterm Exams: There will be three midterm exams given this semester (worth 45% of your overall grade). Each exam will be worth 15% of your overall grade and you will be responsible for all lecture material covered up to the exam dates. These exams are tentatively scheduled to be taken on **February 13, March 18,** and **April 22**. More information about these exams will be given in class.

Final Exam: The final exam is scheduled for the week of May 4th. Please check that you have no conflicts (work, plane tickets home, etc) that will prevent you from taking the final at the scheduled time. This exam will be cumulative, covering all of the material presented in class over the semester.

Attendance: If you miss a lecture, please send me an email or leave a phone message explaining your absence. If you miss a quiz or midterm exam, a written explanation should be turned in or you will receive a score of zero. Any student who does not take the final exam will fail the course.

Student Conduct: Please refer to the Student Handbook for the CUH policies on Classroom Behavior and Academic Dishonesty.

Music Devices and Cell phones: Unless specifically allowed by the instructor, the use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade. It can be discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class. Please refer any questions to the Dean of Natural Sciences and Mathematics.

ADA Accommodations: Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735-4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students and review the procedures at http://www.chaminade.edu/student_life/sss/counseling_services.php.

Opportunities for Help: If you need assistance with the material for this course, come to my office for help! I have set office hours, but I am often available at other times. Feel free to drop by, phone, or send me an email (using your Chaminade account) to set up a specific appointment. There are also chemistry tutors available at the AAP.

Course Grades: The course grades will be based on the following weighted percentages and grading scale. Any changes will be announced in class.

Homework	5%
Attendance/Participation	5%
Quizzes	15%
Midterm Exams	45% (15% each exam)
Final Exam	30%

GRADE	FINAL PERCENTAGE
A	90-100 %
B	75-89 %
C	60-74 %
D	40-59 %
Fail	below 40 %

SPRING 2015 CH 204 Course Schedule:

WEEK	DATE	CHAPTER	TOPICS
1	1/12		Syllabus and Course information
	1/14	7	Chapter 7 Review
	1/16	7	Periodic Trends
2	1/19		**HOLIDAY**
	1/21	8	Chemical bonds, electronegativity
	1/23	8	Bond polarity, Ionic compounds, bond energies
3	1/26	8	Lewis Structures, Octet Rule
	1/28	8	VESPR Model
	1/30	8	Molecular geometry
4	2/2	8/9	Hybrid Orbitals
	2/4	9	Molecular Orbital Theory
	2/6	9/10	Intermolecular Forces
5	2/9	10	Classification of Solids
	2/11	10	Vapor Pressure and Changes of State
	2/13	10	Phase Diagrams
6	2/16		**HOLIDAY**
	2/18	7-10	**EXAM 1**
	2/20	11	Solutions and Solubility
7	2/23	11	Solution Concentration
	2/25	11	Colligative Properties, Osmotic Pressure
	2/27	12	Reaction Rates
8	3/2	12	Rate laws
	3/4	12	Integrated Rate laws, Energy reaction diagrams
	3/6	12	Arrhenius Equation
9	3/9	13	Chemical Equilibrium
	3/11	13	Equilibrium constants
	3/13	13	Equilibrium calculations
10	3/16	13	Le Chatlier's Principle
	3/18	11-13	**EXAM 2**
	3/20		TBA

SPRING BREAK 3/23 – 3/27			
11	3/30	14	Acids and Bases, Acid Strength
	4/1	14	pH calculations, Ionization constants (K_a and K_b)
	4/3		**HOLIDAY**
12	4/6	14	Acid-Base properties of salts
	4/8	14	Lewis acids and bases
	4/10	15	Common Ion Effect
13	4/13	15	Acid-base Titrations, Buffer solutions
	4/15	16	Solubility Equilibria
	4/17	17	Spontaneous Processes, Entropy
14	4/20	17	Gibb's Free Energy
	4/22		**EXAM 3**
	4/24	18	Balancing Redox Reactions
15	4/27	18	Standard Reduction Potentials, Voltaic Cells
	4/29	18	Nerst Equation
	5/1		Course Evaluations
16	5/4	7-18	**FINAL EXAM (11:00 AM - 1:00 PM)**