

Chemistry 110 – General Chemistry, Course 40318
Lecture MWF 8:30 am – 9:50 am Room NSM C221
Laboratory M or W 1:00 pm – 3:50 pm Room NSM B340

Instructor: Dr. Kenneth R. Rodriguez
Office: NSM C-305
Phone: (310)243-3419
Email: krodriquez@csudh.edu
Office Hours: M 4:00 pm – 5:00 pm & F 10:00 am to 11:00 am

Textbooks and Supplies:

Zumdahl, Steven S, “Chemistry”, Houghton Mifflin Company, 2007, 7th Edition.
CHEM 110 Lab Manual, “Lab Manual: Chemistry Department, CSU Dominguez Hills”
Bound Laboratory Notebook
Scientific calculator, capable of doing exponential (exp or EE key) and logarithmic calculations (**no programmable graphing calculators allowed on quizzes or exams**).
Laboratory safety glasses/goggles (the lab will provide used safety goggles)
Ability to access the internet

Prerequisites: CHEM108 or high school chemistry and satisfactory performance on the General Chemistry placement exam.

Exams: There will be 3 examinations given in the semester and each exam will be worth 100 points. **There will be no curving or scaling of any exams.** There maybe bonus questions on exam for additional points.

	Exam 1: Chapters 1-3	Scale: A	91 – 100%
	Exam 2: Chapters 4-6	A-	89 – 90%
	Exam 3: Chapters 7-10	B+	87 – 88%
		B	82 – 86%
		B-	80 – 81%
Grading:	Exams	C+	77 – 79%
	Final	C	73 – 76%
	Quizzes	C-	70 – 72%
	Laboratory	D+	66 – 69%
	<u>Homework</u>	D	60 - 65%
	Total	F	0 - 59%

*** **IMPORTANT NOTE:** Any “excusable” absence for a lab or test **MUST** be substantiated by a WRITTEN note; a grade for “excused” missing work will be assigned as determined appropriate by the Instructor, on a case by case basis. Otherwise, missed work = zero points! Contact me before the exam if a college-sanctioned activity conflicts with an exam or quiz date.

Final: The final examination is worth 200 points and **is cumulative**. You must take the final examination to receive credit for the class. The final exam will be given on Wednesday, December 16th 2009 from 8:30 am -10:30 am.

Daily Quizzes: There will be 22 daily quizzes given in the first 5 minutes of lecture worth 5 points each. These daily quizzes will be random and will be worth a total of 100 points towards your score. There will absolutely be no make up on any of the daily quizzes when they are given. So, it is your responsibility to be on time for each lecture. The 2 lowest quiz scores will be dropped throughout the semester.

Laboratory: You must be enrolled in a laboratory concurrently with the corresponding lecture. Bring safety glasses/goggles and closed toed shoes to every lab section. Please use your cell phones outside of the lab if it is an emergency.

Homework: 10 homework assignments will be collected during the semester. Each homework assignment is worth a possible 10 points. Homework assignments will be assigned approximately after we are done with a chapter topic. You will have one week to complete the homework assignments once assigned. Solutions to the homework will be handed out or posted on blackboard after the due date of each assignment. **Late homework will not be accepted at all!**

Furlough days: Due to the budget situation of the state of California, the California State University has been fallen a large budget cut for the 2009-2010 academic year. Nine furlough days have been enforced to help deal with CSUDH budget situation for all employees. There will be four furlough days (9/18, 11/23, 11/25, and 11/27) that will affect CHEM110 lecture since I will not be on campus. Please be aware of these days.

Course Objective for CHEM 110: This course is a 5-unit general chemistry course. The topics covered will include the following: basic scientific principles, measurements and units, atomic structure and reactivity, state of matter, thermodynamics, basic organic chemistry, enthalpy of formation, atomic orbital theory, molecular orbital theory, valence shell electron pair repulsion theory, intro to quantum theory, etc... This course will develop problem solving skills and basic data analysis.

By the end of the course you should be able to:

1. use the language of general chemistry (vocabulary, nomenclature, formulas and equations) to describe chemical systems and changes (physical and chemical) they undergo.
2. describe the structure of the atom in terms of the arrangement of subatomic particles and electronic configuration.
3. extract information from the Periodic Table and predict periodic trends.
4. distinguish between ionic and covalent bonding and write Lewis structures for molecules and polyatomic ions.

5. predict molecular geometry, bond angles and polarity.
6. solve introductory level quantitative problems applied to chemical systems by using dimensional analysis and algebra. These problems include unit conversions, stoichiometry, gas laws, and solution concentrations.
7. describe the properties of solids, liquids, gases and solutions and relate them to bonding and intermolecular forces.
8. discuss the factors which affect the rate of reactions and how energy is a key role for all chemical reactions in thermochemistry.
9. state the properties and definitions of acids and bases and interpret elementary acid-base equilibria, including buffer systems.
10. describe the bonding and geometry of carbon compounds in terms of hybridization and type of bonding orbital overlap (π or σ).

Course Content:

General Chemistry Topics

- Chapter 1. Chemical Foundations
- Chapter 2. Atoms, Molecules, and Ions
- Chapter 3. Stoichiometry
- Chapter 4. Types of Chemistry Reactions and Solution Stoichiometry
- Chapter 5. Gases
- Chapter 6. Thermochemistry
- Chapter 7: Atomic Structure and Periodicity
- Chapter 8: Bonding: General Concepts
- Chapter 9: Covalent Bonding: Orbitals
- Chapter 10. Liquids and Solids
- Chapter 11. Properties of Solutions
- Chapter 12. Chemical Kinetics
- Chapter 13. Chemical Equilibrium
- Chapter 14. Acids and Bases
- Chapter 15. Applications of Aqueous Equilibria
- Chapter 16. Spontaneity, Entropy, and Free Energy
- Chapter 17. Electrochemistry

Additional Chemistry Topics

- Chapter 18. The Nucleus: A Chemist's View
- Chapter 19. The Representative Elements: Groups 1A through 4A
- Chapter 20. The Representative Elements: Groups 5A through 8A
- Chapter 21. Transition Metals and Coordination Chemistry
- Chapter 22. Organic and Biological Molecules

Lectures: MWF, 8:30 am - 9:50 am (NSM C221),
 Laboratory: M or W, 1:00 pm - 3:50 pm (NSM B340)

TENTATIVE LECTURE & TEST SCHEDULES AND ASSIGNMENTS*

Mon	Wed	Fri	Mon	Wed	Fri	Mon	Wed	Fri
8/31 intro	9/2 Ch1	9/4 Ch 2	9/7 Labor day (No Class)	9/9 Ch 2	9/11 Ch 2	9/14 Ch 2	9/16 Ch 3	9/18 Furlough day
9/21 Ch 3	9/23 Ch 3	9/25 Ch 3	9/28 Ch 4	9/30 Ch 4	10/2 Exam 1 Ch1-3	10/5 Ch 4	10/7 Ch 4	10/9 Ch 5
10/12 Ch 5	10/14 Ch 5	10/16 Ch 5	10/19 Ch 6	10/21 Ch 6	10/23 Ch 6	10/26 Ch 6	10/28 Ch 7	10/30 Exam2 Ch4-6
11/2 Ch 7	11/4 Ch 7	11/6 Ch 7	11/9 Ch 8	11/11 Veteran's Day (No Class)	11/13 Ch 8	11/16 Ch 8	11/18 Ch 8	11/20 Ch 9
11/23 Furlough day	11/25 Furlough day	11/27 Furlough day	11/30 Ch 9	12/2 Ch 9	12/4 Ch 9	12/7 Ch 10	12/9 Ch 10	12/11 Exam3 Ch7-9
12/14	12/16 Final to include Ch10							

***Note: Exams and Course Contents Subject to Change**

FINAL EXAM:

Wednesday, December 16th (ALL COURSE MATERIAL) from 8:30 am- 10:30 am

Course Material: The course materials for this section will be available online. The lecture notes are all Powerpoint presentations or PDF which you will be able to download from blackboard <http://toro.csudh.edu/webapps/portal/frameset.jsp> or my own personal webpage at <http://chemistry.csudh.edu/faculty/krodriguez/ken.htm>. Homework assignments and any other materials will also be available for you to download.

Academic Misconduct: Cheating and/or plagiarism will result in an F grade for the course. Dishonest students will be reported to the administration for further disciplinary action. No programmable calculators or devices with alphanumeric text storage capacity will be allowed in the exams (including language translators and cell phones). Communicating with another student during the exam will result in a zero.

Attendance Policy: It is the responsibility of the student to attend lectures and labs. Failure to attend lectures may result in zeros on homework and exams due on those days. Be PROMPT and regular in attendance. Late arrivals, side-discussions and other unprofessional behavior will be addressed at the instructor's discretion. Quizzes and Tests are "lecture-based" and may include questions on material covered only in Lecture (i.e. not discussed in the texts). There is no recording of attendance. Attendance will be recorded according to their homework and quizzes. Students returning from absences are advised to copy lecture notes from students in their study group. Consistent late arrival may result in a lower grade; MORE THAN FOUR ABSENCES may result in being dropped from the class.

Classroom Etiquette: Please arrive to lectures and labs on time. **Turn off all cell phones and pagers when in class!** Points may be deducted for such interruptions - is that incoming call worth it? Be respectful of others. Do not bring visitors to the class or laboratory.

Extra Credit: There are no extra credit assignments. There is plenty of non-extra credit work to complete. For chemistry practice problems online that will help you out for this course, please visit <http://proton.csudh.edu/homeworkcs/hwintrocsn7.html>. Bonus problems may be given on the exams for extra credit.

Study Suggestions

- Always study illustrations and skim the text before attending lectures.
- Do as many problems possible in addition to the assigned homework and do them without relying on solution keys. Using the available online help guide to assist your study when you have problem to understand the questions.
- Work additional problems and review for the exams with small study group members.
- Get help from the University Tutorial Services staff and your instructors in a timely manner.

Re-grading Policy: No re-grades unless there is a clear error in the adding of points.

Acknowledgement of Syllabus:

By signing and returning this sheet, I acknowledge that I have read the California State University Dominguez Hills General Chemistry 110, Course 40318 Syllabus for Fall 2009 given by Dr. Rodriguez and that I have understood all of its contents.

Signature

Printed full name