

Chemistry 1311-003 Spring 2012

Contact Information

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Office Hours: M 2:00 – 5:00 PM

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W 8:00 – 9:00 AM; 2:00 – 4:00 PM

Course Information

Department: Physical Sciences

Start Date: 01/17/2012

End Date: 05/10/2012

Modality: Face-to-Face

Credits: 3 hour

Lecture: MWF 10:00 – 10:50 am

Required Reading/Material

Chemistry: The Central Science, 12th edition, Brown, T, LeMay, H, Bursten, B, Murphy, C, Woodward, P. Prentice Hall, 2012.

Simple Scientific calculator

(Programmable calculators cannot be used on quizzes or exams)

Course Prerequisites

Be eligible for Math 1314

Course Corequisite: CHEM 1111

SCANS

1, 3, 6, 9

Course Description

The overall goal of the General Chemistry courses is to teach students to think about the properties and behavior of the macroscopic world in terms of the structure and arrangement of the constituent molecules and atoms. Specifically in CHEM 1311, aspects of atoms and quantum mechanics are emphasized through problem-solving questions.

Course Objectives

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry.

Learning Outcomes

Upon successful completion of this course, students will:

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.
3. Determine the basic nuclear and electronic structure of atoms.
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.
5. Describe the bonding in and the shape of simple molecules and ions.
6. Solve stoichiometric problems.
7. Write chemical formulas.
8. Write and balance equations.
9. Use the rules of nomenclature to name chemical compounds.
10. Define the types and characteristics of chemical reactions.
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
12. Determine the role of energy in physical changes and chemical reactions.
13. Convert units of measure and demonstrate dimensional analysis skills.

Course Attendance

Attendance is required and will be checked. To effectively master the material, your **attendance** for each class is necessary.

Academic Honesty

Students are responsible for understanding the code of Student Conduct found in the OC Student Handbook. Academic Dishonesty will not be tolerated in this course. Cheating in any form will be handled accordingly.

Students with Disability

Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the ADA of 1990. Students with special needs or issues pertaining to access and participation in this class must contact me immediately. Further, you may call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Cell Phone

When class begins, all phones need to be on silent or vibrate. If it is necessary for you to answer your phone or text message, then you need to step out into the hallway. If you consistently text message while in class, you will be asked to leave the class. Your phone **cannot** be used as a calculator on quizzes or exams.

Course Grading

Exams	60%
Quizzes	10%
Homework	10%
Final Exam	20%

Homework

Assignments will be made, collected and graded for completeness. The homework assignments are to help you prepare for the exams because variations of these will be on the exam. You should attempt to work all of the homework questions. Answer key will be posted the day before it's due. Homework **will not be accepted** more than two class days late.

Quizzes

There will be a short quiz given once each chapter is completed. The quizzes will include questions and problems over the current material but may require some knowledge of the previous material. Your lowest quiz grade will be dropped at the end of the semester. **If you miss a quiz, be prepared to make it up on the day you return to class**, otherwise you will not be allowed to make it up.

Examinations

(tentatively)

First Exam: Friday, February 10th
Second Exam: Friday, March 9th
Third Exam: Monday, April 20th
Final Exam: Monday, May 7th, at 11:00 a.m.-1:30 p.m.

Final Exam

The final exam is comprehensive.

Make-Up Exam

A make-up exam will be given on the last day of class before finals. If you miss an exam for any reason you will have the opportunity to take this exam. Any student who may wish to replace a lower exam may also take this exam. The make-up exam will be multiple choice questions covering the entire semester.

HELP

Please do not wait until the last minute to get help! Come in during office hours or make an appointment to see **ME** as soon as a concept or problem gives you difficulty. I am here to help you make it through this experience.

Learning Resource Center (Library)

The Library, known as the [Learning Resources Center](#), provides research assistance via the [LRC's catalog \(print books, videos, e-books\)](#) and [databases \(journal and magazine articles\)](#). [Research guides](#) covering specific subject areas, [tutorials](#), and the "[Ask a Librarian](#)" service provide additional help.

Student E-mail

Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Student Portal

Please access your [Odessa College Student E-mail](http://www.odessa.edu/gmail/), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Technical Support

For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm.

Important School Policies

For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or student's and instructors' right to academic freedom can be found in the [Odessa College Student Handbook](#).

Course Schedule

(tentatively)

<u>Chapter</u>	<u>Topics</u>	<u>Descriptions</u>	
I	Introduction: Matter and Measurement	How Science is Done	Quiz
II	Atoms, Molecules, and Ions	Atomic Theory	Quiz
III	Stoichiometry: Calculations with Chemical Formulas and Equations	What is a mole?	Quiz
	One, Two, and Three		Exam
IV	Reactions in Aqueous Solutions	Types of Reactions	Quiz
V	Thermochemistry	Enthalpy	Quiz
VI	Electronic Structure of Atoms	Electron Arrangement	Quiz
	Four, Five, and Six		Exam
VII	Periodic Properties of the Elements	Trends of Periodic Table	Quiz
VIII	Basic Concepts of Chemical Bonding	Bonding Types	Quiz
IX	Molecular Geometry and Bonding Theories	Multiple Bonding	Quiz
	Seven, Eight, and Nine		Exam
X	Gases	Gas Laws	Quiz
	Final Exam		Exam

Good Luck this Semester!!!!!!!!!!

1311 HOMEWORK SET

CHAPTER 1

1, 2, 4, 7, 8, 10, 12, 14, 17, 19, 20, 27, 31, 33, 35-43, 46, 48, 55, 58, 64, 71

CHAPTER II

2, 4, 5, 6, 7, 10, 15, 19, 20, 22, 24, 26, 31, 32, 37, 38, 43, 45, 48, 50, 55, 56, 58, 61, 64, 66, 68, 70, 73, 74, 99

CHAPTER III

1, 4, 5, 6, 7, 11, 12, 14, 16, 18, 22, 24, 34, 36, 38, 46, 50, 54, 62, 68, 77, 84, 93, 103

***Extra Credit Opportunity**

CHAPTER IV

2, 7, 12, 15, 16, 19, 20, 22, 24, 28, 29, 35, 37, 40, 47, 50, 52, 62, 63, 64, 71, 78, 80, 87, 99

CHAPTER V

3, 8, 15, 27, 32, 39, 41, 43, 53, 55, 63, 66, 69, 71, 73, 85, 102

*** Extra Credit Opportunity**

CHAPTER VI

2, 5, 13, 18, 23, 27, 35, 53, 65, 66, 68, 70, 71, 81

CHAPTER VII

25, 26, 29, 30, 37, 41, 45, 47, 61, 68, 73, 81, 103

***Extra Credit Opportunity**

CHAPTER VIII

4, 7, 13, 18, 19, 39, 40, 41, 42, 47, 48, 63, 69, 71, 85, 90

CHAPTER IX

3, 7, 12, 14, 19, 27, 28, 32, 43, 44, 55, 56, 61, 66, 81, 83, 101

CHAPTER X

4, 10, 21, 35, 37, 43, 53, 54