

# Course Syllabus

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NOTE: This syllabus is subject to change during the semester. Please check this syllabus on a regular basis for any updates.

**Department** : Physical Sciences  
**Course Title** : General Inorganic Chemistry  
II  
**Section Name** : CHEM\_1312\_624  
**Scheduled** : 09:30AM - 10:50AM  
**Start Date** : 01/18/2011  
**End Date** : 05/09/2011  
**Modality** : FACE-TO-FACE  
**Credits** : 3

## Instructor Information

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**Name** : Robert A. Morris  
**OC Email** : rmorris@odessa.edu  
**OC Phone #** : (432) 335-6596

## Course Description

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A lecture course that is a continuation of CHEM 1311, which includes: solutions, chemical kinetics, acids and bases, equilibrium, electrochemistry, thermodynamics, coordination chemistry, nuclear chemistry, organic chemistry, etc. The student will be involved in reading information or problems and using critical thinking skills and mathematics to organize the information or to arrive at an answer; also requires student writing skills in order to communicate the information acquired in a written format.

## Prerequisites/Co requisites

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**Math 1314 and a minimum grade of "C" in CHEM 1311**  
**Co requisite:** CHEM 1112

## [Scans](#)

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1, 3, 6, 9

## Course Objectives

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### **Course Objectives & Learning Outcomes**

The objective in any chemistry course is to develop problem-solving skills. To find strategies that help you develop the *chemical intuition* needed to understand chemical reasoning.

Upon completion of this course, students will be able to:

- (1) Understand the concept of chemical equilibrium, and the energies that drive chemical reactions: an introduction to the field of thermodynamics.
- (2) Apply the concept of chemical kinetics and the energy required to initiate a chemical reaction.
- (3) Recognize oxidation and reduction half-reactions that can occur in electrolytic and galvanic cells

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## **COURSE ATTENDANCE**

### **Course Attendance**

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

### **Required**

Simple Scientific calculator (**Programmable calculators cannot be used on quizzes or exams**)

### **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.

### **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** after 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.

### **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.

### **Examinations**

(TENTATIVELY)

### **CHEM 1312 12 (DAY)**

**First Exam:** Tuesday, February 17<sup>th</sup>  
**Second Exam:** Tuesday, March 15<sup>th</sup>  
**Third Exam:** Thursday, April 21<sup>th</sup>  
**Final Exam:** Tuesday, May 10<sup>th</sup>, at 8:00 a.m.-10:30 a.m.

### **Final Exam**

The final exam is the ACS accredited exam and is comprehensive over **both** semesters!!!!!!

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## Required Readings/Materials

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You must purchase the following **required** readings/materials:

*Chemistry: The Molecular Science*, 4<sup>th</sup> edition, J. W. Moore, C. L. Stanitski, and P.C. Jurs, Brooks/Cole, 2011.

## Course Requirements (Lectures, Assignments and Assessments)

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Chapter	Type	Description
<i>ELEVEN: Liquids, Solids, and Materials</i>	QUIZ	Particle interactions
<i>THIRTEEN: Chemical Kinetics: Rates of Reactions</i>	QUIZ	<i>Rate Laws</i>
<i>FOURTEEN: Chemical Equilibrium</i>	QUIZ	Le Chatelier's Principle
Eleven, Thirteen, and Fourteen	EXAM	
<i>FIFTEEN: The Chemistry of Solutes and Solutions</i>	QUIZ	Solubility
<i>SIXTEEN: Acids and Bases</i>	QUIZ	Ionization Constants
<i>SEVENTEEN: Additional Aqueous Equilibrium</i>	QUIZ	Buffer Solutions
Fifteen, Sixteen, and Seventeen	EXAM	
<i>EIGHTEEN: Thermodynamics: Directionality of Chemical Reactions</i>	QUIZ	Gibbs Free Energy
<i>NINETEEN: Electrochemistry and its Applications</i>	QUIZ	Standard Potentials
<i>TWENTY ONE: The Chemistry of the Main Group Elements</i>	QUIZ	Metals, Halogens
Eighteen, Nineteen, and Twenty One	EXAM	

## Homework Set

Chapter: Title	Quantity	Description
<i>ELEVEN: Liquids, Solids, and Materials</i>	14	8, 21, 28, 30, 32, 39, 40, 49, 51, 55, 58, 61, 86, 106
<i>THIRTEEN: Chemical Kinetics: Rates of Reactions</i>	15	9, 23, 25, 29, 31, 34, 37, 56, 57, 75, 76, 77, 85, 86, 130
<i>FOURTEEN: Chemical Equilibrium</i>	19	6, 14, 15, 20, 25, 33, 38, 40, 45, 50, 57, 59, 64, 67, 82, 84, 87, 99, 135
<i>FIFTEEN: The Chemistry of Solutes and Solutions</i>	15	15, 26, 27, 31, 38, 46, 49, 60, 69, 76, 81, 84, 102, 108, 121
<i>SIXTEEN: Acids and Bases</i>	24	7, 12, 14, 19, 20, 23, 25, 34, 36, 42, 47, 48, 52, 69, 70, 75, 77, 82, 84, 86, 97, 100, 111, 119

SEVENTEEN: Additional Aqueous Equilibria	15	3, 5, 15, 16, 24, 28, 33, 42, 49, 51, 53, 56, 60, 84, 90
EIGHTEEN: Thermodynamics: Directionality of Chemical Reactions	16	5, 10, 15, 21, 22, 29, 32, 35, 47, 48, 63, 65, 78, 82, 87, 125
NINETEEN: Electrochemistry and it's Applications	7	6, 10, 12, 32, 33, 34, 38
TWENTY ONE: The Chemistry of the Main Group Elements	6	3, 8, 12, 29, 30, 57

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## Grading Policy

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### Course Grading

1. Chapter exams will be: 60% of your grade.
2. Chapter Quizzes will be: 10% of your grade.
3. Homework will be: 10% of your grade.
4. Final Exam will be: 20% of your grade.

Percentage %	Grade
>89.5	A
89.4-79.5	B
79.4-69.5	C
69.4-59.5	D
<59.4	F

## Special Needs

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Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

## Learning Resource Center (Library)

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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

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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.**

### **Student Portal**

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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**

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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](https://www.odessa.edu/dept/ssc/helpdesk_form.htm).

### **Important School Policies**

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