

General Chemistry Laboratory 1112

Summer II

Contact Information

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Course Information

Department: Physical Sciences

Start Date: 07/09/2012

End Date: 08/09/2012

Modality: Face-to-Face

Credits: 1 hour

Lab: M-TH 11:40 am – 1:55 pm

Courses Prerequisites

Corequisite: CHEM 1312

Course Description

A laboratory course illustrates and reinforces principles and concepts of CHEM 1312 by use of quantitative experiments and demonstrates some real world applications.

Course Objectives

Basic laboratory experiments supporting theoretical principles presented in CHEM 1312; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.

Learning Outcomes

Upon successful completion of this course, students will:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

Scans

1, 3, 6, 8, 9

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 lab, you will be asked to leave the lab. Your phone **cannot** be used as a calculator on exams.

Course Grade

Reports	70%
Mid-semester Exam	15%
Final Exam	15%

Pre-lab Exercises

Before coming to lab that week, read through the procedure for the specific experiment and outline it on one of the handout sheets that was given. This exercise for each experiment is due when you come to the laboratory and must be completed **before** you can enter the laboratory. They will be worth 10 points of your report grade.

Reports

Report sheets with the experimental data, calculations, and assigned post laboratory questions will be due at the beginning of the following Monday laboratory. These pages should be legible and problems should show units and logic. Points will be deducted for unsafe conduct in the laboratory.

Laboratory Notebook

A laboratory notebook will be kept during the Qualitative Analysis section of the semester. This notebook will be collected and is worth one lab grade (100 points) each time it is collected. Instructions for keeping the notebook can be found in your lab manual on page 47.

Mid-Semester Exam

Covers the experiments of the first half of the semester. The test will have a short practicum with the rest of the exam being short answer format similar to the pre and post lab questions.

Final Exam

Covers the experiments of the second half of the semester. The test is short answer format, similar to the pre and post lab questions.

Missed Laboratory Sessions

Missed lab **cannot** be made up except under extreme circumstances and permitted by the instructor, special arrangements may be allowed.

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](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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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](#).

The Odessa College Student Success Coaches will help you stay focused and on track to complete your educational goals. If an instructor sees that you might need additional help or success coaching, he or she may submit a Retention Alert or a Starfish Alert. A Student Success Coach will contact you to work toward a solution.

LABORATORY ASSIGNMENTS

Date	Experiment	Experiment Description	Post-lab Quest.
7/09	Check-out, Safety Rules, Math Review	Math skills and Chem 1111 skills needed for the lab.	None
7/10	Water Analysis p. 31	Omit part A. Can work in pairs.	p. 31 # 6 p. 34 # 7
7/11 – 7/12	Colligative Properties: Molar Mass of a Solid p. 173	Can work in pairs. All parts	Handout all questions
7/12	Graphing	In Rm 113	Handouts
7/16 (2 days)	Calorimetry p. 179	Can work in pairs. All parts	Handout all questions
7/18 (2 days)	Colorimetric Determination of Iron p. 17	All parts. Can work in pairs.	p. 23 # 7, 8, 9 p. 26 # 1, 2, 6
7/23 (2 days)	Ionization Constant of Weak Acid p. 121	All parts. Can work in threes.	p. 127 # 5 p. 131 # 1 - 6
7/25	Mid-semester Exam	Will cover labs of 1 st half, through pKa of Weak Acid.	
7/26	Qualitative Analysis Overview p. 35		p. 57 # 1,2,3,4,5,7,8,9,10, 11,12,13
7/30	Qualitative Analysis Group I p. 61	Work singly. All work to be kept in laboratory notebook.	p. 67 # 1, 2, 3, 6, 7
7/31 (2 days)	Qualitative Analysis Group III p. 87	Work singly. All work to be kept in laboratory notebook.	p. 99 # 1, 3, 4, 8, 9
8/2	Prep of Iron Oxalate Complex p. 133	Must complete Period 1; Harvesting your crystals from Period 2 must also be done. Can work in pairs.	p. 139 # 3, 4, 5, 6 p. 141 # 1- 3
8/6 (2 days)	Redox Titration of Oxalate p. 143	All parts. Work in same pairs as last lab.	p. 147 # 1, 3, 4 p. 151 # 4, 5, 6
8/8	Final Exam	Check-in equipment	