

Lab for General Chemistry I

Year Course Offered: 2014
Semester Course Offered: Fall
Department: NS
Course Number: Chem1111
Name of Course: Lab for General Chemistry I
Name of Instructor: Chemistry faculty

The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Learning Objectives (LO)

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

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.

Core Objectives (CO)

General Chemistry Lab addresses the following core objectives to ensure students develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in their lives. The core objectives meet the Texas Core Curriculum objectives for the Social and Behavioral Sciences Foundational Component Area.

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication

- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Social Responsibility - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

Learning Outcomes	CO	Assessment Methods	Criteria/Targets
1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory. Demonstrate safe and proper handling of laboratory equipment and chemicals. Conduct basic laboratory experiments with proper laboratory techniques. Make careful and accurate experimental observations. Relate physical observations and measurements to theoretical principles.	CT, EQS	Exams and quiz	Students will be able to use basic apparatus and apply experimental methodologies used in the chemistry laboratory. Demonstrate safe and proper handling of laboratory equipment and chemicals. Conduct basic laboratory experiments with proper laboratory techniques. Make careful and accurate experimental observations. Relate physical observations and measurements to theoretical principles.
2. Interpret laboratory results and experimental data, and reach logical conclusions. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.	CT, EQS, COM	Assignment and tests.	Students will be able to interpret laboratory results and experimental data, and reach logical conclusions. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
3. Design fundamental experiments involving principles of chemistry and chemical instrumentation. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.	SR, COM	Students will be evaluated based on quiz, questions and answers.	Students will be able to design fundamental experiments involving principles of chemistry and chemical instrumentation. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

Tentative List of Topics

Check in, Safety, Density

Solutions

Recitation only

Oxidation

Gas Law

Styrofoam Calorimetry

Atomic Spectra

Spectrophotometric Analysis

Activity series

Chemical Formulas

Molecular Models

Sublimation

Recitation & Checkout

Read the assigned material and do all necessary calculations *before* coming to lab.