

Common Course Outline
CHEM 102
Laboratory for Chemistry and Its Role in Society
1 Semester Hour

The Community College of Baltimore County

Description

CHEM 102--1 Credit--Laboratory for Chemistry/Society Role serves as a laboratory course to accompany CHEM 100; introduces basic chemistry lab skills; demonstrates principles and concepts developed in CHEM 100.

1 credit: 3 hours of laboratory per week

Prerequisite: Satisfactory completion of or concurrent enrollment in CHEM 100.

Overall Course Objectives

Upon completion of this course the student will be able to:

1. use chemicals safely and dispose of wastes in a proper manner with particular emphasis on avoidance of environmental pollution;
2. use and make accurate measurements with standard laboratory equipment such as the electronic balance, metric ruler, and graduated cylinder;
3. follow written and verbal directions in the performance of an experiment;
4. use various techniques to separate and identify components in a mixture;
5. apply the scientific method to find an explanation to observations;
6. use the computer to get information, collect data or graph trends;
7. interpret data and do necessary calculations to arrive at conclusions;
8. work individually and collaboratively; and
9. keep records of observations and write reports.

Major Topics

- I. Learning to use Laboratory Equipment
- II. Density of Liquids and Solids
- III. Identification of Compounds from Physical Properties
- IV. Exploration using the Scientific Method
- V. Separation of Substances
- VI. Selected Quantitative Analysis
- VII. Titration of an Acid or Base
- VIII. Heat Effects of Chemical Reactions
- X. Rates of Chemical Reactions

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will involve assessment of the following: techniques, purity of compounds prepared, correct identification of unknowns, reproducibility of results, pre-lab questions and quality of written reports.

Writing: A minimum of one formal lab report is required. Other written assignments are at the discretion of the individual faculty.

Other Course Information

This course with CHEM 100 may be used to fulfill 4 credits of the General Education requirement in Physical and Biological Sciences.

Individual faculty members may include additional course objectives, major topics and other requirements to the minimum expectations stated in this Course Outline.

Date Revised 3/10/07