CHEM 102
Laboratory for Chemistry and Its Role in Society
1 Credit

Community College of Baltimore County
Common Course Outline

Description

CHEM 102 – Laboratory for Chemistry and Its Role in Society: serves as a laboratory course to accompany CHEM 100. It introduces basic chemistry lab skills and demonstrates principles and concepts developed in CHEM 100.

Pre-requisites: Concurrent enrollment in or successful completion with a C or better of CHEM 100.

Overall Course Objectives

Upon completion of this course, students 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. make accurate measurements from 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. observe various techniques to separate and identify components in a mixture;
5. apply the scientific method to find an explanation for observations;
6. use a computer and other instruments to collect data and graph trends;
7. find, evaluate use and cite appropriate resources, including print and digital media, in order to gather, evaluate, and use physical and chemical data;
8. interpret data in order to perform the necessary calculations to arrive at conclusions;
9. discuss how chemistry relates to global, ethical and societal issues;
10. work individually and collaboratively including properly acknowledging others' contributions to collaborative work; and
11. keep records of observations in order to communicate the results of laboratory investigations in writing in a thorough and accurate manner.

Major Topics

I. Learning to Use Laboratory Equipment
II. Density
III. Physical and Chemical Properties
IV. Exploration using the Scientific Method
V. Separation of Substances
VI. Quantitative Analysis
VII. Acid-Base Titration

VIII. Heat Effects of Chemical Reactions
IX. Food Chemistry

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- a minimum of six quizzes
- a cumulative 2-hour final exam
- a minimum of 1 formal lab report

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

Other Course Information

This course is an approved 1 credit General Education course in the Biological and Physical Sciences and fulfills the laboratory requirement.
One or more assignments will infuse CCBC General Education Program outcomes and will account for a minimum of 10% of the total course grade. The assignment(s) will allow students to demonstrate at least 5 of the 7 General Education program outcomes.
Successful completion of this course and the companion lecture (CHEM 100) fulfills the lecture and laboratory requirement and equals 4 credits.

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