

# **CHEM 108**

## **Fundamentals of Chemistry Laboratory**

1 Credit (3 laboratory hours)

Community College of Baltimore County  
Common Course Outline

### **Description**

**CHEM 108 – Fundamentals of Chemistry Laboratory:** serves as a lab course to accompany CHEM 107 and as a prerequisite to CHEM 131 and CHEM 146. In this course, students examine how to make and record accurate observations and measurements in an investigative lab setting.

**Co-requisites:** Concurrent enrollment in or successful completion, with a C or better, of CHEM 107: Fundamentals of Chemistry.

### **Overall Course Objectives**

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

1. make accurate observations including proper notations and measurements in an investigative laboratory setting;
2. perform tasks in a safe and accurate manner, using standard laboratory equipment such as the lab burner, electronic balance, thermometer, metric ruler, buret, graduated cylinder, volumetric pipet, and filtration apparatus;
3. apply the principles of the scientific method to critically analyze and evaluate new information;
4. utilize a calibration graph, including the preparation of examples with data;
5. find, evaluate, use, and cite appropriate academic resources;
6. perform the necessary calculations to interpret the numerical data obtained;
7. analyze data and results to obtain meaningful conclusions about the world around us;
8. work independently and cooperatively in laboratory activities;
9. communicate the results of laboratory investigations orally and in writing in a thorough and accurate manner;
10. explain the effect of chemistry on individuals and diverse societies and on the world around us; and
11. apply appropriate standards of academic and scientific integrity to chemistry.

### **Major Topics**

- I. Measurement
- II. Exploration Using the Scientific Method
- III. Physical Properties of Matter
- IV. Identification of Unknown Compounds
- V. Qualitative Analysis
- VI. Chemical Reactions
- VII. Solutions
- VIII. Acid-Base Titration

The Common Course Outline (CCO) determines the essential nature of each course.

For more information, see your professor's syllabus.

## IX. Global Developments in Chemistry

### **Course Requirements**

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

- 12 laboratory report assignments based on the experiments conducted
- a cumulative laboratory final exam
- a maximum of 3% of the final grade for extra credit points

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.

This course when completed with CHEM 107 may be used to fulfill 4 credits of the General Education requirement in Biological and Physical Sciences

Date Revised: 2/7/2023