

**Common Course Outline**  
**CHEM 108**  
**Fundamentals of Chemistry Laboratory**  
**1 Credit**

**The Community College of Baltimore County**

**Description**

**CHEM 108 – 1 credit – Fundamentals of Chemistry Laboratory** serves as a lab course to accompany CHEM 107 and as a prerequisite to CHEM 121 and CHEM 146; examines how to make and record accurate observations and measurements in an investigative lab setting. Concurrent enrollment in or successful completion with a C or better of CHEM 108.

**1 Credit** : 3 laboratory hours

**Co-requisite:** CHEM 107

**Overall Course Objectives**

Upon completion of this course students will be able to:

1. make and record accurate observations and measurements in an investigative laboratory setting;
2. perform various 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. prepare and use a calibration graph;
5. find, evaluate, and cite appropriate academic resources and technology, including print and digital media, to gather physical and chemical data;
6. perform the necessary calculations to interpret the numerical data obtained;
7. interpret data and analyze results in order 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 western standards of academic and scientific integrity to chemistry.

**Major Topics**

- I. Measurement
- II. Exploration using the Scientific Method

- III. Physical Properties of Matter
- IV. Separation and Identification of Components of a Mixture
- V. Chemical Reactions
- VI. Geometric Structure of Molecules: Molecular Models
- VII. Acid-Base Titration
- VIII. Global Developments in Chemistry

### **Course Requirements**

Students are required to utilize appropriate academic resources.

### **Grading/exams**

- Weekly experiments each requiring a laboratory report assignment (a minimum of 2 formal laboratory reports and the rest being informal laboratory reports)
- A cumulative laboratory final exam
- A maximum of 3% of the final grade for extra credit points

**Writing:** This companion lab supplements CHEM 107: Fundamentals of Chemistry. CHEM 107 infuses the CCBC General Education Program Outcomes into the course. The formal assessment of those outcomes occurs in the requisite lecture course.

### **Other Course Information**

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