CHEM 102L: Introductory Chemistry Lab

This detailed course description provides information about course topics & content. It is not a course syllabus. Summer 2013 course syllabi are updated in the spring, and may not be available until summer classes begin.

Instructor Information

Instructor	Email	Course Format	Number of Credits
Sarah Kohler	kohler@umbc.edu	Lecture, Lab	2

General Information

Course Format

Each week the student will attend two one-hour pre-lab lectures and two 4-hour labs.

Delivery Format

In-Person

Prerequisite /Co-requisite:

CHEM 101 (prerequisite); CHEM 102 (co-requisite)

Course Materials

Currently Used Materials

• J. A. Beran Laboratory Manual for Principles of General Chemistry, 2008-2009 Edition

Course Objectives/Learning Outcomes:

The laboratory course is intended to acquaint students with common laboratory practices used to investigate chemical systems. The student gets the opportunity to observe first-hand chemical phenomena that are described in CHEM 101 and CHEM 102.

Potential Topics Covered:

Experiments to be performed include:

Laboratory Safety

SI Units

Laboratory Techniques

Synthesis of Potassium Alum

Percent Water in a Hydrated Salt
Limiting Reactant
Beer's Law
Molar Volume of Carbon Dioxide
Calorimetry
An Equilibrium Constant
A Volumetric Analysis
Vinegar Analysis
LeChatlier's Principle
Buffers
Preface to Qualitative Analysis
Qualitative Analysis with Common Anions
Galvanic Cells and the Nernst Equation
Rate Law and Activation Energy

Instructions for Visiting Students:

Proof of completion of CHEM 101 or the equivalent must be provided.