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

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Email</th>
<th>Course Format</th>
<th>Number of Credits</th>
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</thead>
<tbody>
<tr>
<td>Sarah Kohler</td>
<td><a href="mailto:kohler@umbc.edu">kohler@umbc.edu</a></td>
<td>Lecture, Lab</td>
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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

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.