**Administrative Unit:** Science  
**Course Prefix and Number:** CHEM 110L  
**Course Title:** Chemistry I Laboratory  
**Number of Credit Hours:** 2  
**Lecture Hours:** 0  
**Laboratory Hours:** 3  

**Catalog Description:** An experimental introduction to the physical and chemical properties of matter to complement CHEM 110. Lab fee required. Students majoring in Biology or Chemistry must earn a grade of C or better. Prerequisite/Corequisite: CHEM 110. Offered Fall. G.E.

**Prerequisite(s)/Corequisite(s):** CHEM 110.

**Text(s):** Current editions of:  
- Experiments in General Chemistry. T. Greco, et. al., Prentice Hall.

**Course Objectives:**  
- To apply basic techniques of experimental chemistry.  
- To illustrate and verify the principles learned in CHEM 110.

**Measurable Learning Outcomes:**  
- Describe fundamentals of physical observation.  
- Utilize the scientific method.  
- Demonstrate care and use of laboratory equipment.  
- Demonstrate safe use and handling of chemicals.  
- Demonstrate basic quantitative techniques, including gravimetric measurement.  
- Perform mathematical calculations associated with the experimental techniques employed.

**Topical Outline (major areas of coverage):**  
- Safety rules  
- Basic laboratory operations  
- Identification of a compound  
- Chromatography  
- Reaction types  
- Gravimetric analysis  
- Volumetric analysis  
- Synthesis

Or others covering topics such as naming compounds, VSEPR theory, light, and redox reactions.
Recommended maximum class size for this course: 20

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Frank Somer

Date: October 30, 2004

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

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