**CHEM 112L: General Chemistry I Lab**

**Department:** Chemistry

**Designation:** Required

**Catalog Data:** (0-1) 1 credit. Prerequisite or corequisite: CHEM 112. Laboratory designed to accompany CHEM 112.

**Prerequisites: CHEM 112**

**Textbook:** Manual: General Chemistry I Lab – CHEM112L

**Course Learning Outcomes:**

Students will learn common chemical laboratory safety practices and the experimental methods used in investigating and analyzing the properties and the behavior of matter.

* Understand the basic concept of chemical experiments.
* Understand the distinction between qualitative and quantitative analysis.
* Identify sources of error in chemical experiments.
* Interpret experimental results and draw reasonable conclusions.
* Analyze data in terms of the precision and accuracy of results.
* Learn the importance of performing accurate and precise quantitative measurements.
* Lean and understand laboratory safety procedures.
* Keep complete experimental records.
* Reinforce and apply the knowledge learned in CHEM112.

**Topics:** Laboratory safety, experimental and analytical methods, and the properties and the behavior of matter.

**Class/Laboratory Schedule:** Varies

**Contribution to Criterion 5:** basic sciences

**Relationship of Course to ABET Outcomes (a) through (k)**

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|  | **Level of Emphasis** |
|  | Low | Medium | High |
| **ABET Outcome** |  |  |  |
| (a) an ability to apply knowledge of mathematics, science, and engineering |  |  | X |
| (b) an ability to design and conduct experiments, as well as to analyze and interpret data |  |  | X |
| (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability |  |  |  |
| (d) an ability to function on multidisciplinary teams |  |  |  |
| (e) an ability to identify, formulate, and solve engineering problems |  |  |  |
| (g) an ability to communicate effectively |  |  |  |
| (h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context |  |  |  |
| (i) a recognition of the need for, and an ability to engage in life-long learning |  |  |  |
| (j) a knowledge of contemporary issues |  |  |  |
| (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. |  | X |  |

**Prepared By:** Dr. Duane Hrncir, Ph.D. Chemistry and Provost and Vice President for Academic Affairs, June 1, 2010