

## **CHEM 101 L Introductory Chemistry Laboratory**

This course is an application of the general chemistry concepts studied in CHEM 101. The student carries out experiments including chemical equilibria, solutions, titrations. Upon completion of the course the student will have gained a strong foundation for the further study of chemistry, and for the application of chemical principles in a variety of other fields.

*(Pre-requisites: CHEM 101 )*

### **Course Learning Outcomes:**

By the end of the course, students will be able to:

1. Gain improved understanding of basic concepts behind significant numbers, error analysis involving taking measurements, oxidation-reductions reactions, standardization and calibration processes and equilibrium concepts.
2. Carry out chemical calculations and conduct some simple chemistry experiments including mass relations in chemical reactions, and calculations involving reactions taking place in solution.
3. Understand and apply the chemistry concepts in other fields to solve hands on and practical problems. Conduct appropriate experimentation, analyses and interpret data, and use scientific judgment to draw conclusions.
4. Need to keep a very organized and inclusive notes in a logbook and any knowledge related to the experiments while doing the experiments and the analysis afterwards.
5. Learn how to work in teams while carrying out scientific experiments.
6. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment.

### **Textbook & Course Materials:**

- R. Chang and K. Goldsby, "Chemistry" 13<sup>th</sup> edition.

### **Course Content:**

1. Mass & Volume Measurements
2. Nomenclature & Naming Compounds
3. Standardization of NaOH
4. Online calcium cobalt or redox experiments.