

Course Description

CHM1025L | Introductory Chemistry Lab | 1.00 credit

This course is an optional beginning chemistry laboratory course, which has been designed for those students who have little or no background in chemistry and are enrolled in CHM1025. Students will reinforce what they learn in CHM1025, including basic measurements, chemical bonding, chemical reactions, stoichiometry, concentration of solutions, and chemical nomenclature.

Course Competencies:

Competency 1: The student will develop fundamental laboratory skills and techniques in chemistry by:

1. Demonstrating proficiency in basic measurements, including the use of laboratory instruments such as graduated cylinders, pipettes, and balances
2. Applying proper safety protocols and practices in the laboratory, including handling of chemicals and disposal of waste
3. Analyzing and interpret experimental data accurately, including the calculation of significant figures and the use of scientific notation

Competency 2: The student will understand the principles and concepts related to chemical bonding and reactions by:

1. Identifying different types of chemical bonds, including covalent, ionic, and metallic bonds, and explain their properties and formation
2. Predicting the products and write balanced chemical equations for various types of chemical reactions, including synthesis, decomposition, combustion, and precipitation reactions
3. Applying stoichiometric calculations to determine the quantities of reactants and products in chemical reactions, including the use of mole ratios and the concept of limiting reactants

Competency 3: The student will develop a comprehensive understanding of solution concentration and chemical nomenclature by:

1. Calculating and express solution concentration in different units, including molarity, molality, and percent composition
2. Naming and writing chemical formulas for inorganic compounds, including binary and ternary compounds, acids, and bases
3. Applying knowledge of chemical nomenclature to predict the formulas and names of compounds given their systematic or common names

General Education Learning Outcomes:

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information