

CHEM 109 : Studies in Chemistry I

This course introduces the learners to chemistry's basic concepts. Atomic structure, the periodic table, ionic and covalent bonding, the metric system, nomenclature of chemical elements and compounds, states of matter, and solution concentrations, balancing chemical reactions, oxidation/reduction; some fundamental mathematical concepts crucial to chemistry are also covered. The course assumes that the learners do not have previous knowledge of chemistry and serves as an elective or a science elective for learners in non-science disciplines (3 credit hours of any MATH or **BUSI 300** required).

Credits 3

Prerequisites

- 3 credit hours from any of the pre-requisites above in addition to **LIBR 150**.

Prerequisite Courses

MATH 110

MATH 120

MATH 182

MATH 183

MATH 250

BUSI 200

Course Outcomes

After successfully completing the course, the learner will be able to:

- Demonstrate the ability to generate an empirically evidenced and logical argument;
- Distinguish between causal and correlational relationships; recognize inquiry methods that lead to scientific knowledge;
- Differentiate a scientific argument from a non-scientific argument; and reason by deduction, induction, and analogy.
- Become aware of the relationship between chemistry and the world around you;
- Develop and utilize the “analytical process” to explore the world around you;
- Understand and apply some of the basic principles and models of chemistry to various questions and issues;
- Appreciate the relationship between mathematics and science and learn to apply appropriate mathematics skills to solve problems of a chemical nature; and
- Develop the critical thinking skills needed to solve problems or deal with various issues.

Competency

Scientific Reasoning