CHEM 102 : Introduction to Chemistry

A. Course Description

Credits: 4

Prerequisites: MATH 098 Introduction to Mathematical Thinking
OR
MATH 102 Mathematics of Sustainability or placement at or above College Algebra on the university's assessment test.

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: Goal 03 - Natural Science

This course is an introduction to concepts, methods and vocabulary of the science of chemistry. Topics include scientific method, the history of chemistry, measurement and problem-solving in chemistry, the nature of matter and energy, atoms, molecules, chemical reactions, chemical bonding, the periodic table, solid, liquids, gases and chemical solutions. Includes lab. Intended for students preparing for CHEM 111 General Chemistry as well as students seeking a general education science course with lab.

B. Course Effective Dates: 05/05/2008 - 05/04/2011 05/05/2011 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Demonstrate mastery of the chemistry concepts and vocabulary necessary for success in an algebra-based general chemistry course for biology majors.
2. Demonstrate quantitative reasoning skills and competency with arithmetic and statistics at a level appropriate for graduates of bachelors degree programs.
3. Explain and apply knowledge of the nature of matter and energy, atoms, molecules, chemical reactions, chemical bonding, the periodic table, solid, liquids, gases and chemical solutions and use that knowledge in problem-solving in chemistry.
4. Understand and apply knowledge of measurement, and use that knowledge in the proper conduct and interpretation of laboratory investigations.

E. Learning Outcomes (MN Transfer Curriculum)

Goal 03 - Natural Science

1. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
2. Demonstrate understanding of scientific theories.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

G. Special Information
Note: First day attendance required except by instructor permission. Overlap: CHEM 107 Chemistry, Society and the Environment