INTRODUCTION TO CHEMISTRY — CHEM 1500

A. Course Description
   - Credits: 4.00
   - Lecture Hours/Week: 3.00
   - Lab Hours/Week: 1.00
   - OJT Hours/Week: 0
   - Prerequisites: None
   - Corequisites: None
   - MnTC Goals:
     - 03 – Natural Science

This course is a broad introduction to chemistry - its principles and applications. It is intended for the non-science major. No previous chemistry experience is required. Topics include: the scientific method, measurement, quantitative calculations, atomic structure, periodic table, general properties of matter, the development of the model of the atom, naming, basics of chemical bonding, chemical reactions and their uses, chemical equations, acids and bases, and oxidation/reduction. Includes a lab experience. Meets MnTC Goal 3

B. Course Effective Dates: 6/1/04 – Present

C. Outline of Major Content Areas
   1. Acids and bases
   2. Atomic structure
   3. Basics of chemical bonding
   4. Chemical equations and their uses
   5. Development of the model of the atom
   6. General properties of matter
   7. Oxidation reduction
   8. Periodic Table
   9. Scientific method

D. Learning Outcomes
   1. Apply concepts of chemistry to predict what will happen in given situations
   2. Demonstrate a reasonable working knowledge of the vocabulary associated with the principles of chemistry
   3. Organize, reinforce and extend entering knowledge of chemistry
   4. Recognize and apply chemical knowledge in general and work-related situations
5. Utilize chemical principles to solve problems
6. Utilize written and oral communication skills
7. Work effectively in groups

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 — Natural Science

1. Demonstrate understanding of scientific theories.
2. 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.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted