

Dakota County Technical College

CHEM 1500: Introduction to Chemistry

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: 3

Lab Hours/Week: 1

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 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: 06/01/2004 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

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

D. LEARNING OUTCOMES (General)

1. Demonstrate a reasonable working knowledge of the vocabulary associated with the principles of chemistry
2. Organize, reinforce and extend entering knowledge of chemistry
3. Utilize chemical principles to solve problems
4. Apply concepts of chemistry to predict what will happen in given situations
5. Recognize and apply chemical knowledge in general and work-related situations
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