

# Bemidji State University

## CHEM 1112: General Chemistry II

### A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

A continuation of the survey begun in chemistry 1111 covering basic concepts of inorganic, organic, and biochemistry. The laboratory component introduces techniques, methods, and instrumentation.

Prerequisite: CHEM 1111 or CHEM 2211. Liberal Education Goal Area (LC).

**B. COURSE EFFECTIVE DATES:** 09/03/2002 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Organic Chemistry
2. Alkanes and Cycloalkanes
3. Alkenes and Alkynes
4. Alcohols, Ethers, and Thiols
5. Benzene and its Derivatives
6. Chirality & Amines
7. Aldehydes and Ketones
8. Carboxylic Acids
9. Carbohydrates
10. Lipids
11. Proteins
12. Enzymes

### D. LEARNING OUTCOMES (General)

1. be able to show on the American Chemical Society standardized exam their ability to meet the following learning outcomes:
2. Name and recognize the chemical structure of carbohydrates, lipids, proteins and enzymes. Describe the functions and properties of these classes of compounds.
3. Learn about Alkanes, Alkenes, Alkynes, Alcohols, Ethers and Thiols (structures, names and properties).
4. Discuss the different kind of isomers and the meaning of chirality.
5. Learn about Amines, Aldehydes, Ketones, Carboxylic acids, Esters and Amides (structure, names and properties).

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

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
3. 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.
4. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

## **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted