A. Course Description

Credits: 4

Prerequisites: CHEM 112 General Chemistry II AND
MATH 115 College Algebra

OR

CHEM 112 General Chemistry II AND
MATH 120 Precalculus

Lab Hours/ Weeks:
Corequisites: CHEM 231L - Organic Chemistry I Lab

Lecture Hours/ Week :

MnTC Goals: None

The first semester of a comprehensive course in organic chemistry. This course covers structure and nomenclature, bonding theory, reaction mechanisms, stereochemistry, reaction kinetics and thermodynamics, instrument methods [e.g. NMR, IR, MS] and the syntheses and reactions of various functional groups of organic compounds. Molecular modeling software is used to assist in visualizing structures and reaction mechanisms, and in the interpretation of various spectra. Intended for biology majors and chemistry minors.

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. Apply chemistry knowledge gained in a full-year algebra-based college-level chemistry course (chemical structure, bonding, resonance, molecular formula etc.) to carbon-based molecules.
2. Be prepared for success in second semester organic chemistry and other advanced courses in science that require knowledge of organic chemistry.
3. Know systematic nomenclature for a variety of organic compounds and functional groups and be able to identify the common types of organic functional groups.
4. Understand orbital and bonding theories including hybridization and molecular orbitals.
5. Understand the mechanisms for various types of organic reactions and the unique physical properties and chemical reactivities of functional groups.
6. Visualize and draw organic molecules, have spatial understanding of organic molecules, and understand the importance of the shape of organic molecules on the on their function.

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

G. Special Information

Note: First day attendance required except by instructor permission. Must be taken concurrently with CHEM231L except by instructor permission. Contact instructor for permission.