A. Course Description

Credits: 0

Prerequisites: MATH 098 Introduction to Mathematical Thinking
OR
MATH 102 Mathematics of Sustainability OR placement at College Algebra.

Lab Hours/ Weeks: Corequisites: CHEM 105 - Survey of General, Organic, and Biochemistry

Lecture Hours/ Week:

MnTC Goals: Goal 03 - Natural Science

A one-term course designed for non-majors providing an overview of general, organic, and biochemistry with an emphasis on applications of chemistry of the human body. Topics include solutions and body fluids; acid-base chemistry; atomic/molecular structure and bonding; gases; structure, properties, and reactivity of organic molecules and functional groups; overview of the structure and function of biological molecules including carbohydrates, proteins, lipids and nucleic acids; overview of metabolic processes related to carbohydrate and fat metabolism; enzymes. Lecture 3 credits; lab 1 credit.

B. Course Effective Dates: 05/02/2018 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Understand the structures and properties of atoms, ions, molecules, inorganic, organic, and biological substances and mixtures.
2. Name atomic, inorganic, and organic substances.
3. Write chemical formulas and structures of inorganic, organic, and biological substances.
4. Write balanced chemical equations for reactions of inorganic, organic, and biological substances.
5. Identify energy and equilibrium effects in physical and chemical changes.
6. Perform calculations with unit conversions, energy, gas laws, mass/moles, solution concentrations, and acidity.
7. Identify the general structure, properties, function, and basic reactions of biological molecules.
8. Analyze data and critically interpret and evaluate results.

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. Must be taken concurrently with CHEM 105 except by instructor permission. This course is Pass/No credit grading only.