



MASTER COURSE OUTLINE

Prepared By: Sarah Bauer

Date: 4/29/2019

COURSE TITLE

Chemical Concepts w/ Lab

GENERAL COURSE INFORMATION

Dept.: CHEM&

Course Num: 110

(Formerly: CHM 100/100L)

CIP Code: 40.0501

Intent Code: 11

Program Code: N/A

Credits: 5

Total Contact Hrs Per Qtr.: 66

Lecture Hrs: 44

Lab Hrs: 22

Other Hrs: 0

Distribution Designation: Lab Science LS

COURSE DESCRIPTION (as it will appear in the catalog)

This course is intended for non-science majors. It will provide a basic introduction to chemical principles as they apply to the structure and behavior of matter with an emphasis in examples and application from everyday life. This course can prepare students with limited chemistry background who are planning to pursue further chemistry courses. The course does not meet the chemistry requirement for pre-nursing or nursing degrees. This course is distinct in content and practice from CHEM& 105.

PREREQUISITES

Math 094 or placement in Math 098 or higher.

TEXTBOOK GUIDELINES

A conceptual/intro-level chemistry textbook such as Chemistry in Your Life (Baird). Labs will be taught through provided lab packets or lab kits, such as "Hands On Labs." Textbook and lab materials must be approved by department.

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Define chemistry and the role of the scientific method in chemistry.
2. Describe the general structure of matter and infer information about an atom of an element using the periodic table.
3. Differentiate between the terms atom, element, molecule, and compound and be able to identify each.
4. Describe the three basic types of bonds and link properties with bonding pattern.
5. Identify the role of chemical reactions in daily life and write or interpret equations.
6. Describe the characteristics of a solid, liquid, and gas in terms of visible properties and the kinetic-molecular theory of matter.
7. Perform experiments and record observations to develop a conceptual understanding of physical and chemical phenomena.

INSTITUTIONAL OUTCOMES

IO2 Quantitative Reasoning: Students will be able to reason mathematically.

IO3 Human Relations/Workplace Skills: Students will be able to demonstrate teamwork, ethics, appropriate safety awareness and/or workplace specific skills.

COURSE CONTENT OUTLINE

1. Nature of chemistry
2. Periodic table: organization, families, use
3. Classification of matter: atoms, elements, molecules, and compounds
4. Basics of bonding
5. Phases of matter
6. Chemical reactions and equations
7. Unique properties of water
8. Current event/application chemistry (possible examples: polymers, acid rain, cooking, nutrition, global warming, etc.)

DEPARTMENTAL GUIDELINES (*optional*)

PO5 should be assessed: Students will be able to solve problems by gathering, interpreting, combining and/or applying information from multiple sources.

DIVISION CHAIR APPROVAL

DATE