

General Education Course Objectives and Learning Outcomes

Course Name: Survey of Chemistry

Course Number: CHEM 1113

Department: Physical Science

Submitted by: Hamed Shojaei

COMMON COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES THAT ARE OR WILL BE LISTED ON THE SYLLABUS OF EVERY SECTION OF THIS COURSE:

<i>Course objectives:</i>	Survey of Chemistry is a brief introduction to fundamental concepts in chemistry.
<i>Student learning outcomes:</i>	<p>Upon successful completion of CHEM 1113: Survey of Chemistry, students will be able to:</p> <ul style="list-style-type: none"> • Discuss the impact of chemistry on society and the environment. • Perform basic calculations, using the appropriate units, to characterize chemical systems. • Identify the composition, structure, and properties of matter at a fundamental level. • Use chemical equations to describe the characteristics of chemical reactions.

ADHE ACTS INFORMATION FOR THIS COURSE (IF APPROPRIATE)

<i>ACTS Course number:</i>	CHEM 1214 (taken with CHEM 1111)
<i>Copy the ACTS course objectives and learning outcomes:</i>	<p>General Description: Algebra-based chemistry course specifically designed for majors in health-related professions and is not appropriate for chemistry or other science majors or pre-professional students. Course content provides a foundation for work in health related areas. Course includes nomenclature, atomic and molecular structure, bonding, and reactions. Lab required. This is an algebra-based chemistry course and it is strongly recommended that the student should have completed Intermediate Algebra with a "C" or better.</p> <p>Expected Student Learning Outcomes: The student will explain, describe, discuss, recognize, and apply knowledge of the following:</p> <ul style="list-style-type: none"> • Measurements and unit conversions • Structure and composition of the atom • Periodic table • Ionic and covalent bonding • Inorganic nomenclature • Chemical reactions • Basic Stoichiometry • Gas laws • Solutions • Energy of reactions • Acid/base reactions and equilibria

- Identifying Oxidation-Reduction Reactions
- Nuclear Chemistry

WHICH ATU GENERAL EDUCATION GOALS DOES THIS COURSE FULFILL? (NO MORE THAN TWO)

Communicate effectively

Written communication

Oral communication

Think critically

Develop ethical perspectives

Diversity

Empathy

Leadership

X Apply scientific and quantitative reasoning

Scientific reasoning

X Quantitative reasoning

Apply the value of the arts and humanities

Practice civic engagement

**DESCRIPTION OF HOW THIS COURSE MEETS THE GENERAL EDUCATION GOALS CHOSEN ABOVE
(TO BE INCLUDED ON THE SYLLABUS OF EVERY SECTION OF THIS COURSE)**

- Perform basic calculations, using the appropriate units, to characterize chemical systems. (Aligns with the General Education Goal: Apply Scientific and Quantitative Reasoning.)