

**CHEM 112 Introduction to General Chemistry****Credit Hours:** 4**Scheduled hours per week**

Lecture: 3

Lab: 2

Other: N/A

**Catalog Course Description:** Introductory survey of organic and biological chemistry for students in health sciences as well as those desiring a laboratory science elective to satisfy general education requirements or as a preparation for CHEM 233. Includes nomenclature and the basic physical and chemical properties of the major classes of aliphatic and aromatic organic compounds as well as the major classes of biomolecules. The major metabolic pathways of carbohydrate, lipid, and protein metabolism of eukaryotes will also be discussed. (3 lecture hours per week and 2 lab hours per week) (Pre-requisites: CHEM 111 or CHEM 115)

**Pre-requisites:** CHEM 111, CHEM 111L; or CHEM 115, CHEM 115L

**Co-requisites:** CHEM 112L

**Course Learning Outcomes:**

- To satisfy core curriculum requirement for a 4-hour lab science credit
- To introduce students to the study of organic and biological chemistry and prepare them for subsequent work in a sophomore level organic course

**Topics to be studied:**

- Major functional groups of organic compounds with emphasis on nomenclature
- Chemical structure and its influence on physical properties
- Introduction to the chemistry of biological organisms
- Metabolism of carbohydrates, proteins, and lipids
- Survey of DNA replication, RNA transcription, and protein synthesis

**Relationship of Course to Program or Discipline Learning Outcomes:**

<b>Relationship of Course to Science Learning Outcomes:</b>	
Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.	X
Students exhibit the basic safety-related rules and regulations of working in the lab.	X
Students be able to recount the basic safety tenants associated with a specific scientific discipline.	X
Students will become proficient at Science Writing.	X
Students will recognize and identify the applications of their specific discipline in the 'real world.'	X
Students will accurately recount important milestones in the history of scientific inquiry in their discipline.	X
10/30/2017	

<b>Relationship of Course to General Education Learning Outcomes:</b>	
<b>Composition and Rhetoric</b> Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
<b>Science &amp; Technology</b> Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
<b>Mathematics &amp; Quantitative Skills</b> Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	X
<b>Society, Diversity, &amp; Connections</b> Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
<b>Human Inquiry &amp; the Past</b> Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
<b>The Arts &amp; Creativity</b> Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
10/30/2017	

**Special requirements of the course:**

**Additional information:**

**Prepared by:**

**Date:** 10/30/2017