

# Chemistry (CHM)

## **CHM 115A. Concepts in Chemistry Lab. 1.0 Credit.** Class-0.0.

Clinical-0.0. Lab-2.0. Work-0.0

This course is a laboratory for CHM 115. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 115. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical concepts presented in CHM 115.

Corequisites: Take CHM 115

## **CHM 115. Concepts in Chemistry. 3.0 Credits.** Class-3.0. Clinical-0.0.

Lab-0.0. Work-0.0

This course introduces basic chemical concepts and their applications to daily life for non-science majors. Topics include air pollution, global warming, energy, world of polymers, water and its importance to a technological society, food, drugs, and nuclear chemistry. Upon completion, students should be able to discuss, apply, and appreciate the impact of chemistry on modern society.

## **CHM 121. Foundations of Chemistry. 3.0 Credits.** Class-3.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course is designed for those who have no previous high school chemistry or a grade of C or less in high school chemistry. Topics include matter, structure of the atom, nomenclature, chemical equations, bonding and reactions; mathematical topics include measurements, scientific notation, and stoichiometry. Upon completion, students should be able to demonstrate an understanding of chemical concepts and an ability to solve related problems in subsequent chemistry courses.

Prerequisites: Take 1 group: Take DMA 010 DMA 020 DMA 030 DMA 040 and DMA 050; Take MAT 003; from rule RMINP2M

Corequisites: Take CHM 121A

## **CHM 121A. Foundations of Chemistry Lab. 1.0 Credit.** Class-0.0.

Clinical-0.0. Lab-2.0. Work-0.0

This course is a laboratory for CHM 121. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 121. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 121.

Corequisites: Take CHM 121

## **CHM 130A. General, Organic, & Biochemistry Lab. 1.0 Credit.**

Class-0.0. Clinical-0.0. Lab-2.0. Work-0.0

This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 130. Recommended for certain Allied Health programs.

Corequisites: Take CHM 130

## **CHM 130. General, Organic, & Biochemistry. 3.0 Credits.** Class-3.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course provides a survey of basic facts and principles of general, organic, and biochemistry. Topics include measurement, molecular structure, nuclear chemistry, solutions, acid-base chemistry, gas laws, and the structure, properties, and reactions of major organic and biological groups. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts. Recommended for certain Allied Health programs.

Prerequisites: Take 1 group: Take DMA 010 DMA 020 DMA 030 DMA 040 and DMA 050; Take MAT 003; from rule RMINP2M

Corequisites: Take CHM 130A

## **CHM 131. Introduction to Chemistry. 3.0 Credits.** Class-3.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields.

Prerequisites: Take 1 group: Take DMA 010 DMA 020 DMA 030 DMA 040 and DMA 050; Take CHM 121; Take MAT 003; from rule RMINP2M

Corequisites: Take CHM 131A

## **CHM 131A. Introduction to Chemistry Lab. 1.0 Credit.** Class-0.0.

Clinical-0.0. Lab-3.0. Work-0.0

This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131.

Corequisites: Take CHM 131

## **CHM 132. Organic and Biochemistry. 4.0 Credits.** Class-3.0.

Clinical-0.0. Lab-3.0. Work-0.0

This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. This course has been approved to satisfy the comprehensive articulation agreement general education core requirement in natural sciences/Mathematics.

Prerequisites: Take 1 group: Take CHM 131 CHM 131A, minimum grade of C; Take CHM 151

## **CHM 151. General Chemistry I. 4.0 Credits.** Class-3.0. Clinical-0.0.

Lab-3.0. Work-0.0

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152.

Prerequisites: Take 1 group: DMA 010 DMA 020 DMA 030 DMA 040 and DMA 050; Take MAT 161 MAT 171 or MAT 175, minimum grade of C; Take CHM 121; Take MAT 003; from rule RMINP2M

**CHM 152. General Chemistry II. 4.0 Credits.** Class-3.0. Clinical-0.0.

Lab-3.0. Work-0.0

This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields.

Prerequisites: Take CHM 151; MINIMUM GRADE C

**CHM 251. Organic Chemistry I. 4.0 Credits.** Class-3.0. Clinical-0.0.

Lab-3.0. Work-0.0

This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252.

Prerequisites: Take CHM 152, minimum grade of C

**CHM 252. Organic Chemistry II. 4.0 Credits.** Class-3.0. Clinical-0.0.

Lab-3.0. Work-0.0

This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields.

Prerequisites: Take CHM 251, minimum grade of C