

# CHEMISTRY (CH)

## CH-104 Introductory Chemistry

5 credits, Fall/Winter/Spring/Summer

A lab transfer course for students in nursing, allied health fields and liberal arts. Topics include: observation, measurement, composition, stoichiometry, atomic structure, periodic table, bonding and nomenclature.

Prerequisites: MTH-065 or MTH-098 or placement in MTH-095; and

WRD-090 or placement in WRD-098

Corequisites: CH-104L and CH-104S

## CH-105 Introductory Chemistry

5 credits, Summer/Winter/Spring

A lab course discussing heat; molecular and ionic interactions in solids, liquids, gases, and solutions; chemical reactions including acid-base, electron transfer, and equilibrium.

Prerequisites: CH-104

Corequisites: CH-105L and CH-105S

## CH-106 Introductory Chemistry

5 credits, Spring/Summer

A lab course discussing organic and biochemistry.

Prerequisites: CH-105

Corequisites: CH-106L and CH-106S

## CH-112 Chemistry for Health Sciences

4 credits, Fall/Winter/Spring/Summer

One-term preparatory chemistry course for students who want to take BI-231 and/or BI-234. Includes measurement; atomic structure; periodic table; bonding; nomenclature; heat; molecular and ionic interactions in solids; liquids and solutions; chemical reactions including acid-base; organic chemistry; and biochemistry.

Prerequisites: MTH-065 or MTH-098 with a C or better or placement in MTH-095

Prerequisites: WRD-090 or placement in WRD-098

Recommended Corequisite: BI-112

Corequisites: CH-112L

## CH-114 Chemistry in Art

4 credits, Not Offered Every Term

An introductory laboratory science course designed specifically for the non-science student. Offers a broad, non-quantitative descriptive survey of scientific principles relevant to art and art-related topics such as light, color, pigments, dyes, solubility, acidity, oxidation, and polymers. Emphasizes an interdisciplinary perspective on chemistry.

Recommended Prerequisites: WRD-090 or placement in WRD-098

Corequisites: CH-114L

## CH-150 Preparatory Chemistry

4 credits, Fall/Spring

One term preparatory course for students who must take the general chemistry sequence (CH-221Z, CH-222Z, CH-223Z) but have no chemistry background.

Prerequisites: MTH-095 or placement in MTH-111Z

Corequisites: CH-150S

## CH-221 General Chemistry

5 credits, Fall/Winter

Transfer lab course for science, engineering, and professional majors.

Covers the nature of chemistry, atomic theory, electron configuration, structure, bonding, properties, composition and nomenclature of covalent and ionic substances. Introduces organic chemistry and biochemistry topics.

Prerequisites: CH-104 and CH-105, or CH-150, with a C or better; or a year of high school chemistry within five academic years of beginning CH-221 (passed all terms with C or higher)

Corequisites: CH-221L and CH-221S

## CH-221Z General Chemistry I

4 credits, Fall/Winter

Explores and applies principles and applications of chemistry. Emphasis on measurement, components of matter, atomic and molecular structure, quantitative relationships including foundational stoichiometry, and major classes of chemical reactions. CH-221Z is a lecture course; CH-227Z is the laboratory component.

Prerequisites: CH-104 and CH-105, or CH-150, with a C or better; or a year of high school chemistry within five academic years of beginning CH-221Z (passed all terms with C or higher)

Corequisites: CH-227Z and CH-221SZ

## CH-222 General Chemistry

5 credits, Winter/Spring

A lab course discussing basic concepts of chemical bonding; molecular geometry and bonding theories; gases; intermolecular forces, solids, and liquids; properties of solutions; kinetics; and chemical equilibrium.

Prerequisites: CH-221 with a C or better

Corequisites: CH-222L and CH-222S

## CH-222Z General Chemistry II

4 credits, Winter/Spring

Explores and applies principles presented in CH-221Z to the study of the solid, liquid, and gaseous states of matter. Principles of stoichiometry, thermochemistry, kinetics, and foundational equilibrium are explored and applied to the study of aqueous and gas-phase chemical reactions. CH-222Z is a lecture course; CH-228Z is the laboratory component.

Prerequisites: CH-221Z with a C or better

Corequisites: CH-228Z and CH-222SZ

## CH-223 General Chemistry

5 credits, Spring/Summer

A lab course discussing states of matter, solutions, acids and bases, electrochemistry, nuclear chemistry, and spectroscopy. Topics involving organic chemistry and biochemistry are introduced.

Prerequisites: CH-222 with a C or better

Corequisites: CH-223L and CH-223S

## CH-223Z General Chemistry III

4 credits, Spring/Summer

Builds upon the principles presented in CH-222Z, explores thermodynamics and chemical equilibrium, and applies them to the study of aqueous acid-base reactions, solubility, and electrochemistry. CH-223Z is a lecture course; CH-229Z is the laboratory component.

Prerequisites: CH-222Z with a C or better

Corequisites: CH-229Z and CH-223SZ

**CH-227Z General Chemistry I Laboratory**

1 credits, Fall/Winter

Experiments correspond to the topics covered in CH-221Z including the fundamentals of chemical measurements, quantitative relationships in chemical analysis, and understanding atomic and molecular structure. CH-227Z is the laboratory component; CH-221Z is the lecture course.

Corequisites: CH-221Z and CH-221SZ

**CH-228Z General Chemistry II Laboratory**

1 credits, Winter/Spring

Experiments correspond to the topics covered in CH-222Z including the fundamentals of intermolecular interactions, stoichiometric relationships, chemical equilibria and their application to the synthesis, identification, and analysis of chemical compounds. CH-228Z is the laboratory component; CH-222Z is the lecture course.

Prerequisites: CH-221Z or CH-227Z with a C or better

Corequisites: CH-222Z and CH-222SZ

**CH-229Z General Chemistry III Laboratory**

1 credits, Spring/Summer

Experiments correspond to the topics covered in CH-223Z including the principles of chemical equilibria and their application to chemical analysis using volumetric and electrochemical methods. CH-229Z is the laboratory component; CH-223Z is the lecture course.

Prerequisites: CH-222Z or CH-228Z with a C or better

Corequisites: CH-223Z and CH-223SZ

**CH-241 Organic Chemistry I**

5 credits, Fall

First term of transfer sequence meeting organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering and biology majors.

Prerequisites: CH-223Z and CH-229Z

Corequisites: CH-241L and CH-241S

**CH-242 Organic Chemistry II**

5 credits, Winter

Second term of transfer sequence meeting organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering and biology majors.

Prerequisites: CH-241

Corequisites: CH-242L and CH-242S

**CH-243 Organic Chemistry III**

5 credits, Spring

Third term of a transfer sequence meeting organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering and biology majors.

Prerequisites: CH-242

Corequisites: CH-243L and CH-243S