

# CHM-CHEMISTRY

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## CHM 1020 Chemistry in Society (3 Credits)

This course provides students with an introduction to chemical principles and applications for the non-science major. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the scientific method of problem solving, classification of matter, atomic theory, the periodic table, gases, chemical reactions, energy, and chemical bonds. Student Learning Outcomes: -Students will be able to distinguish between physical and chemical properties and changes. -Students will recognize components of gaseous chemistry. -Students will recognize components of aqueous chemistry including properties of water, solutions, and acids and bases. -Students will correlate the design of the periodic table to periodic trends and physical and chemical properties elements. -Students will write and interpret chemical formula and write balanced chemical equations.

**Prerequisite:** C or higher in MAT 1033 or MAT 1100 or appropriate math placement test scores

General Education, Area V: Natural Sciences

## CHM 1025C Introductory Chemistry w/Lab (4 Credits)

An introduction to the elementary aspects of modern chemistry including the concept of chemistry as an experimental science, atomic and molecular structure, chemical bonding in solids and liquids, and properties of gases. The lab component will provide laboratory support for the lecture material.

**Prerequisite:** C or better in MAT 1033, MAC 1105, MAC 1105C, or MAC 1106

General Education, Area V: Natural Sciences

## CHM 1083 Environmental Science (3 Credits)

A non mathematical study of chemistry and its practical applications. Topics include atomic structure, chemical bonding, acid base behavior, energy sources, pollution, and consumer chemistry.

General Education, Area V: Natural Sciences

## CHM 2045C General Chemistry I w/Lab (4 Credits)

This course is designed for students pursuing careers in the sciences or who need a more rigorous presentation of chemical concepts than is offered in an introductory course. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the principles of chemistry including atomic theory, electronic and molecular structure, measurement, stoichiometry, bonding, periodicity, thermochemistry, nomenclature, solutions, and the properties of gases. Student Learning Outcomes: -Students will apply the law of conservation of matter and energy. -Students will implement rules of significant numbers to all measurements. -Students will explain the fundamental properties of matter including but not limited to atomic and electronic structure, and periodicity. -Students will apply IUPAC rules of nomenclature. -Students will predict molecular geometry and properties from bonding theories. -Students will predict and explain the products of chemical reactions (e.g., acid-base, oxidation-reduction, precipitation, dissociation).

**Prerequisite:** C or higher in CHM 1025C and MAC 1105 or appropriate math placement score

General Education, Area V: Natural Sciences

## CHM 2046C General Chemistry II w/Lab (4 Credits)

This course is a continuation of General Chemistry I With Lab. Laboratory emphasis is on qualitative analysis.

**Prerequisite:** C or higher in CHM 2045C

General Education, Area V: Natural Sciences

## CHM 2210C Organic Chemistry I with Lab (4 Credits)

This course provides a basic introduction to all organic functional groups, followed by detailed treatment of the relationship between structure and reactivity. Other topics include stereochemistry, synthesis, and spectroscopy.

**Prerequisite:** C or higher in CHM 2046C

## CHM 2211C Organic Chemistry II with Lab (4 Credits)

This course is a continuation of CHM 2210C covering the chemistry of carbonyl and nitrogen compounds followed by an introduction to biomolecules. Emphasis will be on reactivity, mechanism, and synthesis.

**Prerequisite:** C or higher in CHM 2210C

**CHM 2930C Special Topics in Chemistry (1-3 Credits )**

Current and historical topics in chemistry and the physical sciences will be discussed. Content may include modern chemistry, technological applications, environmental applications, historical and/or societal perspectives, research or special projects.

**Prerequisite:** CHM 2046C and documented consent of instructor