

CHEMISTRY (CHM)

CHM-110 GEN/ORGANIS/BIO CHEM FOR HEALTH SERVICE (3 Credits)

This non-lab introductory chemistry course surveys general chemistry, basic organic chemistry nomenclature, functional groups and typical reactions, as well as introducing organic compounds of biological importance. Applications of the chemical concepts will focus on situations encountered by healthcare professionals - especially nurses. This course is required for all students in the Associate of Science - Health Services Program. It serves as an elective course for any other student.

Prerequisite: Take MAT-108 or MAT-121

CHM-111 PRIN GENERAL CHEMISTRY (4 Credits)

Investigates properties of substances and the changes they can undergo. Special emphasis on laws of chemical combination, theories of atomic structure, periodic trends, kinetic theory, and chemical and physical equilibria as well as activities to communicate the centrality of chemistry to historical development, modern civilization, and life itself. Explores proper biblical stewardship in chemical manufacturing, disposal, and use. Lecture and lab. This course satisfies the core requirement for Lab Science. Course fee applied.

Prerequisite: None

CHM-121 GENERAL CHEMISTRY I (4 Credits)

Investigation of the composition and properties of substances and the changes they can undergo. Special emphasis on laws of chemical combination, theories of atomic structure, periodic trends, gas properties and thermodynamics, as well as activities to communicate the centrality of chemistry to historical development, modern civilization, and life itself. Explores proper biblical stewardship in chemical manufacturing, disposal, and use. Lecture and lab. This course satisfies the core requirement for Lab Science. Course fee applied.

Prerequisite: None

CHM-122 GENERAL CHEMISTRY II (4 Credits)

A continuation of CHM-121 with emphasis on reaction types and rates, electrochemistry, equilibria, group properties, nuclear chemistry and qualitative analysis. Addresses environmental concerns and safe handling and disposal of chemicals. Applications of chemical concepts to daily life are emphasized throughout the course. Lecture and lab. Course fee applied.

Prerequisite: CHM-121, minimum grade C-

CHM-212 PRINCIPLES OF ORGANIC & BIOCHEM (4 Credits)

Study of the structure, properties, reactions, and interactions of the compounds of carbon and the molecules of life. Special emphasis upon the relationship of macromolecular structure and function to their components. Explores and utilizes chemical theory in the understanding of simple and complex molecular behavior. Laboratory exercises concentrate on synthesis, identification and investigation of both natural and man-made products. Lecture and lab. Course fee applied.

Prerequisite: CHM-111 or CHM-121, minimum grade C-

CHM-230 ORGANIC CHEMISTRY LAB I (2 Credits)

This course develops laboratory principles, methods and techniques for synthesis and analysis of organic molecules. Course fee applied.

Prerequisite: CHM-231

CHM-231 ORGANIC CHEMISTRY I (3 Credits)

A study of carbon compounds including nomenclature, structures, bonding, reactions, mechanisms, and spectroscopic characterization.

Prerequisite: CHM-122, minimum grade C-

CHM-232 ORGANIC CHEMISTRY II (3 Credits)

A continuation of CHM-231 with special emphasis on polyfunctional compounds and molecules with biological significance. Natural product synthesis and polymer chemistry will also be addressed.

Prerequisite: CHM-231, minimum grade C-

CHM-233 ORGANIC CHEMISTRY II LAB (2 Credits)

Continuation of Organic Chemistry Lab I. This course develops laboratory principles, methods and techniques for synthesis and analysis of organic molecules. Course fee applied.

Prerequisite: CHM-232

CHM-280 ADVANCED TOPICS (1-4 Credits)

Prerequisite: None

CHM-411 PERSPECTIVES IN CHEMISTRY (2 Credits)

Investigation in the history, philosophy, curricular structure, methodology, key ideas and concepts of chemistry. Emphasis will be given to the central role in technology and society as well as stewardship issues of production, utilization, and disposal.

Prerequisite: Three CHM courses, Junior or Senior status required

CHM-470 READINGS IN CHEMISTRY (1-3 Credits)

Prerequisite: None

CHM-472 BIOCHEMISTRY (4 Credits)

Investigation of biologically important molecules including proteins, lipids, carbohydrates, and nucleic acids. Enzyme kinetics, metabolic pathways, and the relationship of problems in these pathways to disease states are emphasized. Lecture and lab.

Prerequisite: CHM-232

CHM-480 ADVANCED TOPICS IN CHEMISTRY (3 Credits)

Formal class dependent upon student demand and interest of the professor.

Prerequisite: None

CHM-490 INDEPENDENT STUDY (1-3 Credits)

Prerequisite: None