

CHEMISTRY (CHM)

CHM 101 Preparatory Chemistry, CHM 112 Elements of Chemistry: General, and CHM 142 General Chemistry I fulfill both the physical sciences requirement and the lab science requirement for the AA, AS, and AFA degrees; however, only one of these courses can count as general education.

CHM 142 General Chemistry I fulfills both the physical sciences requirement and the lab science requirement for the Associate in Engineering Science degree.

All CHM courses numbered 100 and above, except CHM 290 Special Topics in Chemistry, may be used to fulfill the math/science requirement for the Associate of Applied Science degree and the science requirement for the Associate in Liberal Studies degree.

All CHM courses numbered 100 and above may also be applied to the major field and elective requirement for the AA and AS degrees.

Twelve hours of CHM 290 Special Topics in Chemistry may be counted toward graduation.

CHM 101 Preparatory Chemistry (5) 4,2

This course introduces basic chemical knowledge to those with no chemical background or those who need a "refresher" course. It includes such topics as atomic structure, periodic table, formulae, chemical equations, stoichiometry, and gas laws. Class time includes lecture, laboratory, and question sessions. The course is primarily designed for general education requirements, as well as to prepare for higher level chemistry courses. (1.1) Fulfills the ECC/IAI General Education/Physical Sciences (lab) requirement. IAI Course Number P1 902L Proficiency Credit Available (2 LT) Pass/No Credit Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria. Math: Grade of C or better in MTH 095 or MTH 098 or MTH 099 or higher or satisfaction of other placement criteria.

Semester(s) Offered: Fall, Spring and Summer

CHM 112 Elements of Chemistry: General (5) 4,2

This course is designed as an introductory chemistry course for students preparing for nursing and other health professions programs. Topics covered include measurements; states, compositions, and properties of matter; atomic structure and chemical bonding; chemical reactions, chemical equations and calculations of formula mass and moles; solutions; acid-base equilibria and nuclear chemistry. (1.1) Fulfills the ECC/IAI General Education/Physical Sciences (lab) requirement. IAI Course Number P1 902L Proficiency Credit Available (2 LT) Pass/No Credit Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria. Math: Grade of C or better in MTH 095, MTH 098, or MTH 099, or satisfaction of other placement criteria.

Semester(s) Offered: Fall, Spring and Summer

CHM 142 General Chemistry I (5) 4,3

The first course in a two-semester sequence in General Chemistry. Topics covered include fundamentals of chemistry including the periodic table of elements, atomic and molecular structure; basic concept of quantum theory, the gaseous state, stoichiometry of chemical reactions and solutions; heat and Enthalpy of reactions; and bonding. The course also emphasizes applications. Students will be exposed to the practical aspects of chemistry as they relate to the health sciences and the environment. The experiments of the companion lab are closely related to the course material and they will emphasize both qualitative and quantitative analysis. The course is intended for science majors, engineering and pre-professional students. (1.1) Fulfills the ECC/IAI General Education/Physical Sciences (lab) requirement. IAI General Education P1 902L IAI Major: CHM 911 Proficiency Credit Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria. Math: Grade of C or better in MTH 112 satisfaction of other placement criteria. Other: Grade of C or better in CHM 101 or CHM 112 or grade of C or better in one year high school chemistry if graduated in the past five years.

Semester(s) Offered: Fall, Spring and Summer

CHM 143 General Chemistry II (5) 4,4

Second course in a two-semester sequence of General Chemistry courses. The goal of this course is to provide the students with a broad overview of the principles of chemistry and to continue the introduction to many basic concepts of chemistry such as chemical kinetics; chemical equilibrium; Entropy and Free Energy; electrochemistry and redox reactions; orbital and spectroscopy; order and symmetry in condensed phases; chemistry of the main group and transition elements; and nuclear chemistry. Students will be exposed to the practical aspects of chemistry as they relate to the health sciences, industry, and the environment. Computer software is available to students to help them learn molecular modeling and graphing. The experiments of the accompanying lab are closely related to the course material and they will emphasize both qualitative and quantitative analysis. (1.1) IAI Major: CHM912 Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria. Math: Grade of C or better in MTH 112 or satisfaction of other placement criteria. Grade of C or better in CHM 142.

Semester(s) Offered: Fall, Spring and Summer

CHM 170 Elementary Organic Chemistry (5) 4,2

Survey of organic chemistry covering nomenclature, structure, reactions, and synthesis of major classes of organic compounds including hydrocarbons, alcohols, aldehydes, ketones, carboxylic acid and amines, and covers how organic chemistry plays a key role in your life. (1.1) Proficiency Credit Available Pass/No Credit Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CHM 112 or CHM 142 or consent of instructor

Semester(s) Offered: Fall, Spring and Summer

CHM 234 Organic Chemistry I (5) 3,6

First semester of a two-semester organic chemistry sequence intended for chemistry majors and those enrolled in pre-professional training. Topics covered include the chemistry of alkanes, alkenes and alkynes, stereochemistry, alkyl halides, nucleophilic substitution and elimination, conjugation, and spectroscopy. (1.1) IAI Major: CHM 913 Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CHM 143 or consent of instructor

Semester(s) Offered: Fall

CHM 235 Organic Chemistry II (5) 3,6

Second semester of a two-semester organic chemistry sequence intended for chemistry majors and those enrolled in pre-professional training. Topics covered include aromatics, alcohols, ethers, thiols, sulfides, carbonyl compounds, amines, synthetic polymers, and biomolecules. (1.1) IAI Major: CHM 914 Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$735 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CHM 234

Semester(s) Offered: Spring

CHM 290 Special Topics in Chemistry (1-4) 1,1

(0-2, 0-6) Designed to satisfy specific needs of students and the community. The following guidelines are to be used in selecting topics: 1) adequate and available material on special topic, and 2) course will increase skills and knowledge of chemistry. Course is repeatable 3 times. (1.1) Proficiency Credit Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$590 (effective 2024/25 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CHM 143 or equivalent and consent of instructor

Semester(s) Offered: Varies