

CHEMISTRY - ACADEMIC UPGRADING (CHEM)

CHEM 0861 Upgrading Credits: 4

Chemistry 11 Part 1 Total Hours: 96

This course introduces students to the basic concepts of chemistry, including the scientific method, measurement, safety measures in a laboratory environment, density, elements and compounds, properties of matter, early atomic theory, atomic mass, nomenclature, percent composition, mole and molar mass, balancing equations, stoichiometry, gases and heat in chemical reactions. Both Chemistry 0861 and Chemistry 0871 are required for completion of ABE Advanced level Chemistry. It is recommended that Chemistry 0861 be taken before or at the same time as Chemistry 0871.

Pre-requisite(s): English 10 or an equivalent as listed at <https://www.vcc.ca/applying/registration-services/english-language-proficiency-requirements/>; and Precalculus 11 (successfully completed within the last 3 years), a minimum score of 72% on the Intermediate Algebra Math Assessment or equivalent; if the math prerequisite is not met, MATH 0861 must be taken at the same time as CHEM 0861

CHEM 0871 Upgrading Credits: 4

Chemistry 11 Part 2 Total Hours: 96

This course introduces students to the basic concepts of chemistry, including the scientific method and measurement, safety measures in a laboratory environment, early atomic theory and structure, modern atomic theory, chemical bonds, organic chemistry, water and liquids, solutions, acids-bases and salts and nuclear chemistry. Both Chemistry 0861 and Chemistry 0871 are required for completion of ABE Advanced level Chemistry. It is recommended that Chemistry 0861 be taken before or at the same time as Chemistry 0871

Pre-requisite(s): English 10 or an equivalent as listed at <https://www.vcc.ca/applying/registration-services/english-language-proficiency-requirements/>; and Precalculus 11 (successfully completed within the last 3 years), or a minimum score of 72% on the Intermediate Algebra Math Assessment, or equivalent; if the math prerequisite is not met, MATH 0861 and 0871 must be taken at the same time as CHEM 0861 and 0871

CHEM 0983 Upgrading Credits: 4

Chemistry 12 Part 1 Total Hours: 96

This course examines the properties of matter. Core topics include safety in a laboratory environment, thermochemistry, the gas laws and reaction kinetics. Optional topics include the electronic structure of atoms, the periodic table and properties of elements, chemical bonding and molecular shapes. Chemistry 0983 and Chemistry 0993 may be taken at the same time or in any order. Chemistry 0983 and Chemistry 0993 are required for completion of ABE Provincial level Chemistry.

Pre-requisite(s): English 10 or equivalent; Chemistry 11 or equivalent; Pre-calculus 11 or a minimum score of 72% on the Intermediate Algebra Math Assessment, or equivalent; If the Math prerequisite is not met, MATH 0861 must be taken at the same time as CHEM 0983; English 11 strongly recommended

CHEM 0993 Upgrading Credits: 4

Chemistry 12 Part 2 Total Hours: 96

This course examines why and how chemical reactions take place. Core topics include safety in a laboratory environment, chemical equilibrium (qualitative and quantitative aspects, equilibrium in acidbase systems, additional aspects of aqueous equilibria) and electrochemistry. This course provides an insight into the role of chemistry in industry and its role in the explanation of natural phenomena encountered in everyday life. Stoichiometry is reviewed. Chemistry 0983 and Chemistry 0993 may be taken at the same time or in any order. Chemistry 0983 and Chemistry 0993 are required for completion of ABE Provincial level Chemistry.

Pre-requisite(s): English 10 or equivalent; Chemistry 11 or equivalent; Pre-calculus 11, or a minimum score of 72% on the Intermediate Algebra Math Assessment, or equivalent; if the Math prerequisite is not met, MATH 0861 and 0871 must be taken at the same time as CHEM 0983 and 0993; English 11 strongly recommended