

Course CHEMISTRY – CHEM 504

Level Cycle 2 year 3, secondary 5

Course Description and Objectives

Students taking chemistry will learn an appreciation for the chemical systems that surround them. Several aspects of chemistry will be studied to give the student an overview of the science. Topics include but are not limited to basic chemical principles gas laws, energy, equilibrium, rates of reaction, historical contributions to chemistry as well as environmental issues. Through laboratory and theory students will learn the importance of chemistry in everyday life.

Broad Areas of Learning

The broad areas of learning are described in the course outline supplement.

Cross-Curricular Competencies

The cross-curricular competencies are described in the course outline supplement.

Course Topics

Chemical principles: the mole, stoichiometry, lab techniques, etc

Gases: Charles' law, Boyle's law, Gay-Lussac's law, ideal gas law, etc.

Energy: heat vs. temperature, heats of formation, heat transfer, etc.

Rates of reaction: measuring rates, factors influencing rates.

Equilibrium: static vs. dynamic, closed systems, Le Châtelier's principle, acids and bases

Assessment

General information and attendance requirements for all courses are described on the course outline supplement. The table below describes the specific competencies and the relative weighting for this subject.

Competency	Description	Weighting
1. Seeks answers or solutions to scientific problems.	Focuses on the methodology used to solve scientific problems. The student becomes familiar with concepts and strategies using a hands-on approach. Students must ask questions and solve problems through observation and laboratory experimentation.	40%

2. Makes the most of his/her knowledge of science	Focuses on the student's ability to conceptualize and apply what they have learned in science. It involves examining the very nature of scientific knowledge, its evolution and its numerous societal and environmental consequences.	60%
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Ponderation

Term 1: 20%

Term 2: 20%

Term 3: 60%

Note

Goggles are mandatory for all laboratory work.