

R.H. KING ACADEMY SCIENCE DEPARTMENT
COURSE OUTLINE AND EVALUATION
GRADE 12 COLLEGE CHEMISTRY

COURSE OVERVIEW

This course enables students to develop an understanding of chemistry through the study of matter and qualitative analysis, chemical calculations, electrochemistry, organic chemistry and chemistry as it relates to the quality of the environment. Students will use a variety of laboratory techniques, develop skills in data collection and scientific analysis, and communicate scientific information using appropriate terminology. Emphasis will be placed on the role of chemistry in daily life and the effects of technological applications and processes on society and the environment.

Prerequisite: Science, Grade 10, Academic or Applied

Credit Value: 1.0

TOPICS OF STUDY

Matter and Qualitative Analysis

In this unit students will:

- evaluate the effects of chemical substances on the environment, and analyse practical applications of qualitative analysis of matter;
- investigate matter, using various methods of qualitative analysis;
- demonstrate an understanding of the basic principles of qualitative analysis of matter.

Chemical Calculations

In this unit students will:

- analyse processes in the home, the workplace, or the environmental sector that use chemical quantities and calculations, and assess the importance of accuracy in chemical calculations;
- investigate chemical compounds and chemical reactions using appropriate techniques of quantitative analysis, and solve related problems;
- demonstrate an understanding of the mole concept and its quantitative relationships in chemical reactions.

Electrochemistry

In this unit students will:

- analyse technological applications or processes relating to oxidation-reduction reactions, and assess their impact on the environment;
- investigate the oxidation-reduction reaction that occurs in a galvanic cell;
- demonstrate an understanding of the concepts of oxidation and reduction, and the principles of oxidation-reduction reactions.

Organic Chemistry

In this unit students will:

- evaluate the impact on society, human health, and the environment of products made using organic compounds;
- investigate the physical and chemical properties of organic compounds, and analyse some common organic chemical reactions;
- demonstrate an understanding of the structure and the physical and chemical properties of organic compounds.

Chemistry in the Environment

In this unit students will:

- evaluate the importance of government regulations, scientific analyses, and individual actions in improving air and water quality, and propose a personal plan of action to support these efforts;
- investigate chemical reactions, using appropriate techniques of quantitative analysis;
- demonstrate an understanding of chemical reactions that occur in the environment as a result of both natural processes and human activities.

COURSE TEXTBOOK: McGraw-Hill Ryerson Chemistry 12 College Preparation

Replacement Cost: \$ 90

MATERIALS REQUIRED: binder, loose leaf paper, pens, pencils, eraser, ruler, calculator, graph paper

CALCULATION OF MARKS

Your final mark in Chemistry will be calculated as follows:

Tests	25 %
Labs	20 %
Quiz/Assignment	15 %
ISU	10 %
Final Exam	30 %

Student work will be assessed and/or evaluated in a **BALANCED** manner with respect to the **FOUR** categories, and that achievement of particular expectations will be considered within the appropriate categories

Knowledge and Understanding

- understanding of concepts, principles, laws, and theories (e.g. identifying assumptions, eliminating misconceptions, providing explanations)
- knowledge of facts and terms
- transfer of concepts to new contexts
- understanding of relationships between concepts

Thinking and Inquiry

- application of the skills and strategies of scientific inquiry (e.g. initiating and planning, performing and recording, analysing and interpretation, problem solving)
- application of technical skills and procedures
- use of tools, equipment and materials

Communication

- communication of information and ideas: use of scientific terminology, symbols, conventions and standard (SI) units, communication for different audiences and purposes
- use of various forms of communication (e.g. reports, essays)
- use of information technology for scientific purposes

Application and Making Connections

- understanding connections between science, technology, society and the environment
- analysis of social and economic issues involving science and technology
- assessment of impacts of science and technology on the environment
- proposing courses of practical action in relation to science and technology based problems

CLINIC

All students can benefit by attending clinic periods when they feel they need extra help. You may be required to commit to clinic with your Chemistry teacher based on marks, completion of work, disciplinary needs, or teacher request.

CHEATING AND PLAGIARISM

It is expected that all students at R.H. King Academy will practice academic honesty and build this into their career philosophies. They must acknowledge any input from peers, parents and secondary sources. Information gathered from the Internet is considered a secondary source. To submit any work that is not completely their own is considered plagiarism. "Loaning" completed work to other students is considered to be cheating.

Cheating will result in a mark of zero and may result in suspension and/or loss of credit.