



**R.H. KING ACADEMY SCIENCE DEPARTMENT
COURSE OUTLINE AND EVALUATION
GRADE 11 UNIVERSITY CHEMISTRY (SCH3U)**

COURSE OVERVIEW

This course enables students to deepen their understanding of chemistry through the study of the properties of chemicals and chemical bonds; chemical reactions and quantitative relationships in those reactions; solutions and solubility; and atmospheric chemistry and the behaviour of gases. Students will further develop their analytical skills and investigate the qualitative and quantitative properties of matter, as well as the impact of some common chemical reactions on society and the environment.

TOPICS OF STUDY

Matter, Chemical Trends and Chemical Bonding

In this unit students will:

- analyse the properties of commonly used chemical substances and their effects on human health and the environment, and propose ways to lessen their impact;
- investigate physical and chemical properties of elements and compounds, and use various methods to visually represent them;
- demonstrate an understanding of periodic trends in the periodic table and how elements combine to form chemical bonds.

Chemical Reactions

In this unit students will:

- analyse chemical reactions used in a variety of applications, and assess their impact on society and the environment;
- investigate different types of chemical reactions;
- demonstrate an understanding of the different types of chemical reactions.

Quantities in Chemical Reactions

In this unit students will:

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

Solutions and Solubility

In this unit students will:

- analyse the origins and effects of water pollution, and a variety of economic, social, and environmental issues related to drinking water;
- investigate qualitative and quantitative properties of solutions, and solve related problems;
- demonstrate an understanding of qualitative and quantitative properties of solutions.

Gases and Atmospheric Chemistry

In this unit students will:

- analyse the cumulative effects of human activities and technologies on air quality, and describe some Canadian initiatives to reduce air pollution, including ways to reduce their own carbon footprint;
- investigate gas laws that explain the behaviour of gases, and solve related problems;
- demonstrate an understanding of the laws that explain the behaviour of gases.

COURSE TEXTBOOK: Nelson Chemistry 11 **Replacement Cost:** \$85

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

CALCULATION OF MARKS

Your final mark in Chemistry will be calculated as follows:

Test	25 %
Lab	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.