R.H. KING ACADEMY SCIENCE DEPARTMENT
COURSE OUTLINE AND EVALUATION
GRADE 10 APPLIED SCIENCE

COURSE OVERVIEW

This course enables students to;

1. develop a deeper understanding of concepts in biology, chemistry, earth and space science, and physics;
2. develop further practical skills in scientific investigation;
3. apply their knowledge of science in real-world situations.

TOPICS OF STUDY

In this course, students will plan and conduct investigations into everyday problems and issues related to human cells and body systems; chemical reactions; factors affecting climate change; and the interaction of light and matter.

Biology Unit: Tissues, Organs and Systems

In this unit students will:

- analyse some current technologies or substances that have an impact on human tissues, organs, or systems, and evaluate their effects on human health;
- investigate cell division, cell specialization, and the organization of systems in animals, including humans, using various laboratory techniques;
- demonstrate an understanding of the hierarchical organization of cells, from tissues, to organs, to systems in animals, including humans.

Chemistry Unit: Chemical Reactions and their Practical Applications

In this unit students will:

- analyse how chemical reactions are employed in common products and processes, and assess the safety and environmental hazards associated with them;
- investigate, through inquiry, the characteristics of simple chemical reactions;
- demonstrate an understanding of simple chemical reactions and the language and ways to represent them.

Physics Unit: Light and Applications of Optics

In this unit students will:

- analyse how properties of light and colour are applied in technology and the impact of these technologies on society;
- investigate, through inquiry, properties of light, and predict its behaviour in mirrors and as it passes through different media;
- demonstrate an understanding of characteristics and properties of light, particularly with respect to reflection and refraction and the addition and subtraction of colour.

Earth and Space Science Unit: Earth's Dynamic Climate

In this unit students will:

- analyse effects of human activity on climate change, and effects of climate change on living things and natural systems;
- investigate various natural and human factors that have an impact on climate change and global warming;
- demonstrate an understanding of various natural and human factors that contribute to climate change and global warming.

COURSE TEXTBOOK: Science Connection 10 **Replacement Cost**: $90

MATERIALS REQUIRED
binder, loose leaf paper, pens, pencils, eraser, ruler, protractor, calculator, graph paper, splash-proof goggles (provided by school)

CALCULATION OF MARKS
Your final mark in Science will be calculated as follows:

Test	20%	70 % TERM
Lab	20%	
Quiz/Assignment	15%	
ISU	15%	
Final Exam	30%	30%

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

The instruments used to evaluate your performance in science include daily class work, reports, laboratory skills and reports, independent study projects, quizzes, tests and the final examination.

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 Science 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 one's 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.