

**R.H. KING ACADEMY SCIENCE DEPARTMENT
COURSE OUTLINE AND EVALUATION
GRADE 11 ENVIRONMENTAL SCIENCE, UNIVERSITY/COLLEGE PREPARATION**

COURSE OVERVIEW

This course provides students with the fundamental knowledge of and skills relating to environmental science that will help them succeed in life after secondary school. Students will explore a range of topics, including the role of science in addressing contemporary environmental challenges; the impact of the environment on human health; sustainable agriculture and forestry; the reduction and management of waste; and the conservation of energy. Students will increase their scientific and environmental literacy and examine the interrelationships between science, the environment, and society in a variety of areas.

Prerequisite: Grade 10 Science, Applied or Academic

Credit Value: 1.0

TOPICS OF STUDY

Scientific Solutions to Contemporary Environmental Challenges

In this unit students will:

- analyse social and economic issues related to an environmental challenge, and how societal needs influence scientific endeavours related to the environment;
- investigate a range of perspectives that have contributed to scientific knowledge about the environment, and how scientific knowledge and procedures are applied to address contemporary environmental problems;
- demonstrate an understanding of major contemporary environmental challenges and how we acquire knowledge about them.

Human Health and the Environment

In this unit students will:

- analyse initiatives, both governmental and non-governmental, that are intended to reduce the impact of environmental factors on human health;
- investigate environmental factors that can affect human health, and analyse related data;
- demonstrate an understanding of various environmental factors that can affect human health, and explain how the impact of these factors can be reduced.

Sustainable Agriculture and Forestry

In this unit students will:

- evaluate the impact of agricultural and forestry practices on human health, the economy, and the environment;
- investigate conditions necessary for plant growth, including the soil components most suitable for various species, and various environmentally sustainable methods that can be used to promote growth;
- demonstrate an understanding of conditions require for plant growth and of a variety of environmentally sustainable practices that can be used to promote growth.

Reducing and Managing Waste

In this unit students will:

- analyse economic, political, and environmental considerations affecting waste management strategies;
- investigate the effectiveness of various waste management practices;
- demonstrate an understanding of the nature and types of waste and strategies for its management.

Conservation of Energy

In this unit students will:

- assess the impact on society and the environment of the use of various renewable and non-renewable energy sources, and propose a plan to reduce energy consumption;
- investigate various methods of conserving energy and improving energy efficiency;
- demonstrate an understanding of energy production, consumption, and conservation with respect to a variety of renewable and non-renewable sources.

COURSE TEXTBOOK

Instead of one main textbook, we will be using a variety of handouts, websites, and resources that will be available through Desire2Learn (<http://tdsb.elearningontario.ca>).

MATERIALS REQUIRED

Splash-proof goggles (provided by school), binder, loose leaf paper, pens, pencils, eraser, ruler, protractor, calculator, graph paper, drawing compass

CALCULATION OF MARKS

Your final mark in Science will be calculated as follows:

Knowledge & Understanding	18%	70% Term
Thinking & Investigation	18%	
Communication	12%	
Application/Making Connections	12%	
Projects (K, I, C, A)	10%	
Written Exam	30%	30% Final Summative

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 Investigation

- 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 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.