R.H. KING ACADEMY SCIENCE DEPARTMENT
GRADE 11 UNIVERSITY BIOLOGY (SBI 3U)
COURSE OUTLINE AND EVALUATION

COURSE OVERVIEW

This course furthers students' understanding of the processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biodiversity; evolution; genetic processes; the structure and function of animals; and the anatomy, growth, and function of plants. The course focuses on the theoretical aspects of the topics under study, and helps students refine skills related to scientific investigation. This course is considered a ***values course*** because it provides students with opportunities to evaluate the impacts of personal choices and technologies on their health and the environment.

TOPICS OF STUDY

Diversity of Living Things

In this unit students will:

- analyse the effects of various human activities on the diversity of living things;
- investigate, through laboratory and/or field activities or through simulations, the principles of scientific classification, using appropriate sampling and classification techniques;
- demonstrate an understanding of the diversity of living organisms in terms of the principles of taxonomy and phylogeny.

Evolution

In this unit students will:

- analyse the economic and environmental advantages and disadvantages of an artificial selection technology, and evaluate the impact of environmental changes on natural selection and endangered species;
- investigate evolutionary processes, and analyse scientific evidence that supports the theory of evolution;
- demonstrate an understanding of the theory of evolution, the evidence that supports it, and some of the mechanisms by which it occurs.

Genetic Processes

In this unit students will:

- evaluate the importance of some recent contributions to our knowledge of genetic processes, and analyse social and ethical implications of genetic and genomic research;
- investigate genetic processes, including those that occur during meiosis, and analyse data to solve basic genetics problems involving monohybrid and dihybrid crosses;
- demonstrate an understanding of concepts, processes, and technologies related to the transmission of hereditary characteristics.

Animals: Structure and Function

In this unit students will:

- analyse the relationships between changing societal needs, technological advances, and our understanding of internal systems of humans;
- investigate, through laboratory inquiry or computer simulation, the functional responses of the respiratory and circulatory systems of animals, and the relationships between their respiratory, circulatory, and digestive systems;
- demonstrate an understanding of animal anatomy and physiology, and describe disorders of the respiratory, circulatory, and digestive systems.

Plants: Anatomy, Growth and Functions

In this unit students will:

- evaluate the importance of sustainable use of plants to Canadian society and other cultures;
- investigate the structures and functions of plant tissues, and factors affecting plant growth;
- demonstrate an understanding of the diversity of vascular plants, including their structures, internal transport systems, and their role in maintaining biodiversity.

COURSE TEXTBOOK: MGH Biology 11 **Replacement Cost:** $85

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

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

Type of Evaluation	Category	Percentage	Frequency of Evaluation
Test	All	25%	one in each unit
Lab	I, C, MC	20%	one in each unit
Quiz/Assignment	All	15%	at least one in each unit
ISU	K, MC, C	10%	at least two in the course
Exam	All	30% (summative)	one

The instruments used to evaluate your performance during the semester (70 % of final mark) include: assignments, laboratory reports, independent study projects, quizzes, and tests. At the end of the course there will be a written summative examination of the entire course worth 30% of the final mark.

ACHIEVEMENT CATEGORIES

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

Communication (C)
- 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 (M)
- 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 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.