
**Vincent Massey High School
Biology 30SA
Course Outline
2008-09**

Course Title: Biology 30SA

School Year and Semester: 2008-09 Semester II

Teacher: Mrs. C. Curtis and Mrs. L. Metruk

Course Description: This course is similar to Biology 30S in the content that is covered. It is, however, designed for students who are strongly motivated to study Biology in greater depth, possibly with a view to continuing their studies beyond High School. It will provide a detailed look at the chemistry of life, cell functions, and animal form and function, with a special emphasis being placed on human systems. There will be a greater emphasis placed on literacy skills, particularly expository writing.

General Learning Outcomes:

- Students will develop an understanding of the human body as a self-regulating homeostatic organism.
- Students will develop an understanding of the life requirements for cells and organisms as a whole.
- Students will develop an understanding of the contribution that each of the body systems makes to the overall functioning of complex organisms.
- Students will examine disorders of the human body from the viewpoint that they are disturbances in the constant internal environment that humans organism attempts to maintain.
- Students will compare the structures of each of the major systems in animals and relate the suitability of these structures to their functions.
- Students will examine their own state of wellness with regard to each system and will develop and action plan designed to promote a healthy lifestyle.
- Students will gain awareness that Biology is a dynamic area of study that is constantly changing as a result of new discoveries.
- Students will be given the opportunity to develop scientific inquiry skills through a variety of activities.
- Students will develop expository writing skills as they discuss the many processes involved in the overall functioning of complex organisms.

Course Evaluation Structure:

- 60% Coursework (quizzes, journals, labs)
- 20% Mid-Term based on first ten chapters
- 20% Final based on last ten chapters

Resource:

Campbell and Reece: Biology

Course Final Standing:

This is a heavy course and it is important that students keep on top of their work. All marks will be cumulative and averaged. In the event that a student does exceptionally well on major exams (mid-term or final) these marks will be given more consideration, which ultimately will improve the student's mark.

Unit Descriptions

Unit 1 Title: Introductory Themes and the Chemistry of Life

Reece and Campbell. Chapters 1-6

Approximate Instructional Time for Unit of Study: 6 weeks

Learning Outcomes:

- Students will examine ten themes present in a study of life.
- Students will examine the chemical basis of life forms.
- Students will examine the importance of water to life on earth.
- Students will examine the importance of carbon to life on earth.
- Students will examine the structure and function of macromolecules such as proteins.
- Students will examine the concept of energy and metabolism in living organisms.

Assessment and Evaluation:

2 Chapter Tests (Ch1-4) (Ch 5+6)

Unit 2 Title: The Cell

Reece and Campbell. Chapters 7, 8, 11, and 12

Approximate Instructional Time for Unit of Study: 4 weeks

Learning Outcomes:

- Students will examine the form and function of the microstructures of the cell.
- Students will examine the structure and function of the cell membrane.
- Students will examine the processes of cell to cell communication.
- Students will examine the life history of cells.

Assessment and Evaluation:

1 Chapter Test (Ch 7,8,11,12)

Unit 3 Title: Animal Form and Function

Reece and Campbell. Chapters 40-49

Approximate Instructional Time for Unit of Study: 10 weeks

Learning Outcomes:

- Students will examine the general theme of form and function in Animals.
- Students will examine Animal Nutrition.
- Students will examine Animal Circulation and Gas Exchange.
- Students will examine Animal Defense Mechanisms and Immunity.
- Students will examine Animal Homeostasis.
- Students will examine Chemical Signals in Animals.
- Students will examine Animal Reproduction.
- Students will examine Animal Development.
- Students will examine Animal Nervous systems.
- Students will examine Animal Sensory and Motor Mechanisms.

Assessment and Evaluation:

3 Chapter Tests (Ch 40,41,42) (Ch 43,44,45) (Ch 46,47,48,49)