



Teaching Staff Semester II, 2018-2019:

- M. Mawson – Rm 226/332 mmawson@hrce.ca
- M. Favaro - Rm 332 mfavaro@hrce.ca

Introduction

The aim of Biology 11 is to explore the unity and diversity of living things. The underlying concepts provide connections between units of study, fostering an awareness of the tremendous impact of biology and technology upon society.

Textbook: *Biology 11* (Nelson 2002). This will be the primary resource for this course; however, other resources will be used as well. Do not lose your textbook as it is personally coded for your name.

Online collective spaces: Online collective spaces (Google classroom) have been set up on the Nova Scotia Virtual Schools website. Students will require a gnsps.ca e-mail account and password in order to access the course materials. It is important for students to utilize the designated site as the primary source for class materials. The teacher will inform students which service will be utilized.

Course Outline:

Matter & Energy (the cell, interaction of cell structures, photosynthesis, cell respiration) Assessment 30%

Cells are introduced as the basic units of life. The unit investigates the role of cell structures in matter exchange and energy flow and recognizes the impact of technology on our understanding of cell structure and processes.

- The cell: cell theory; biogenesis vs. abiogenesis; microscopy.
- Interaction of cell structures: prokaryote and eukaryotes, structure & function of cell organelles, interactions between cell organelles. Structure of cell membranes (phospholipids, membrane proteins, cholesterol). Cellular transport and Hyper/hypo/isotonic solutions and their effects on cells.
- Photosynthesis & cellular respiration.

Dynamic Equilibrium I

Assessment 35%

Note: *Biology 11 requires that a minimum of two (2) of the following five body systems be investigated in detail—circulatory, respiratory, digestive, excretory, and immune systems.*

- Investigate how body systems work based on scientific understandings; explain how different plant and animal system maintain homeostasis.
- Identify and describe the role of chemicals, including elements, compounds, biochemical, and water on the structure and function of various body systems.
- Identify and predict the impact of viruses, diseases, and environmental factors on the homeostasis of an organism and propose alternate solutions.

Biodiversity

Assessment 25%

- Classifying living things: Signs of life, early attempts at organization; principles of taxonomy; ordered levels of classification (taxa).
- Diversity among living things: Identifying characteristics of the present 6 kingdoms; anatomy, physiology and life cycle of representative organisms from each kingdom (and viruses).

Population Ecology

Assessment 10%

Ecosystems involve complex interactions between biotic and abiotic factors. This unit investigates the role of these factors on population dynamics and the flow of energy within ecological systems.

- North American Biomes: compare and interpret patterns with another continent in terms of climate, vegetation, physical geography, and location.
- Population dynamics: describe and explain factors that influence population growth and interactions within and between populations; carrying capacity; natural resources; energy pyramid.

ASSESSMENT:

Summative assessment is to determine the extent to which learning has occurred for students.

Evaluation is the process of analyzing, reflecting upon, and summarizing assessment information and making judgements and/or decisions based on the information gathered.

Science courses require commitment and students must take responsibility for achieving the outcomes. Students need to make sure that they keep up with the work and ask questions early if they encounter difficulties before they become overwhelming. Unit assessments will consist of multiple formats for a student to demonstrate their understanding of the outcomes. Such opportunities include (but are not limited to) tests, quizzes, in-class assignments, labs and projects. No one method of assessment will be worth more than 50% of the unit. In the case that students cannot meet a deadline put forward by the teacher, they are asked to see the teacher *prior* to the due date to negotiate an alternate date.

Throughout the semester, students may feel that they have not successfully demonstrated their understanding of particular outcomes on a summative assessment (test) and would like another opportunity to demonstrate their knowledge. Students will be given the opportunity to write a “Multiple Opportunity” test on one or two dates later in the semester. Given the number of students and the number of summative assessments that occur throughout the semester, pre-determined dates will be set for the multiple opportunity tests to occur. Students will be permitted to write one multiple opportunity. Multiple opportunity testing may take place during the instructional day. Students will be given ample notice of these dates to prepare appropriately.

Assessment information will be entered into PowerSchool on a regular basis; however, cumulative grade calculation (the term “mark”) will only be calculated once every 2 - 3 weeks on specified days that will be provided to students at the beginning of each unit of study. All assessment events and their respective scores will be visible throughout the course on PowerSchool. This is an effort to draw student focus to each learning opportunity rather than the running total or final grade.

Final Assessment: 75% Course Outline 25% Final Exam

The Biology 11 exam is an exemptible exam if requirements are met and is scheduled in the formal exam period for 2 hours.

Communication of Student Achievement:

A collaborative effort of all stakeholders (student/parent/teacher) is important to ensure student academic success. In an effort to maintain communications, a numbers of avenues are available.

- Parents and students are encouraged to contact the teacher via email if they have any concerns regarding academic progress.
- Important dates (see CPA website for more information):
 - Curriculum Night: *September 12, 2018*
 - Parent/Teacher interviews: *November 21, 2018*

Creating a Positive Learning Environment

To maximize the opportunities for success, it is important:

- To be on time and prepared with the necessary materials.
- To display proper classroom etiquette and participate in classroom activities.
- To complete all assigned homework and to expect periodic homework checks.
- To review materials daily in preparation for assessments and class work and to adequately prepare for all tests.
- To assume full responsibility for any and all missed class work or assessments.
- To attend extra help sessions when needed.