



## Malvern CI Science - Course Outline SBI3U1

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**Course Description/Rationale/Overview:** This course provides students with the opportunity for in-depth study of the concepts and processes associated with biological systems. Students will study theory and conduct investigations in the areas of diversity of living things, plants, genetic processes, evolution, and animal structure and function. Emphasis will be placed on achievement of the detailed knowledge and refined skills needed for further study in Grade 12 University Preparation Biology, as well as various branches of the life sciences and related fields.

**PREREQUISITE:** To enroll in this course a student must have successfully completed Grade 10 Academic Science (SNC2D).

**Class Requirements:** Three ring binder, calculator, writing utensils, Textbook: Biology 11, Nelson (to be provided)

### COURSE REQUIREMENTS/SCHOOL POLICIES

**PLAGIARISM:** Plagiarized work, including ChatGPT, may result in a mark of zero as well as further disciplinary action.

**LATE ASSIGNMENTS:** Late assignments without legitimate cause may be subject to mark deductions. Please speak with your teacher if you feel you won't be able to complete your assignment on time.

**MISSED TESTS/ASSESSMENTS:** Missed tests/assessments due to illness or quarantine will not be academically penalized. The teacher will provide alternative arrangements for the student to complete the test/assessment.

### Assessment and Evaluation Strategies

**Diagnostic:** Assessment activities used, as required at the beginning of a block of learning (i.e. course, unit), to determine students' strengths and learning needs in order to plan, modify and adjust instruction or to provide alternative learning opportunities.

*Diagnostic assessment data is not used in the determination of midterm or finals for inclusion on the report card. (e.g. homework, diagnostic test)*

**Formative:** Ongoing assessment during the learning process. It is used to monitor student performance and provide feedback in an effort to enhance and improve learning and instruction. Recorded formative data can be tracked and monitored to support professional judgment in cases where the body of evidence provided by the student has been affected by such things as illness, missed assignments, etc. (e.g. pop quizzes, rough notes, planning notes, process work, homework, practice tests)

**Summative:** Evaluation that occurs at the conclusion of a block of learning (e.g. activity, unit, course, semester/school year) and focuses on student achievement and program effectiveness. This is used to determine the 70% term mark. (e.g. research paper, quiz, unit test, laboratory activity)

**Learning Skills: evaluated on Report Card as E(excellent); G(good); S(satisfactory); N(needs improvement)**

1) Responsibility 2) Organization 3) Independent Work 4) Collaboration 5) Initiative 6) Self-Regulation

**Term Work (70% of overall mark): evaluated in the following achievement categories**

1) Knowledge and Understanding 2) Application 3) Communication 4) Thinking/ Inquiry

**Summative Tasks (30% of overall mark)**

Culminating Activity (10%)

Exam (20%)



### **Classroom Routines and Procedures:**

- Regular attendance is essential. If you are going to be away, you are responsible for catching up on missed work.
- All work submitted must be your own. Submitting another person's work, including work produced by ChatGPT/AI, is considered plagiarism and may result in a mark of zero.
- Listening is an important part of class. Please listen to instructions. Record important due dates and dates of assessments.
- Review course material regularly.
- No eating during class. Food is not permitted in any science classroom.

Term work will be based on the **Overall Curriculum Expectations** listed below.

### **Diversity of Living Things**

- Analyze 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.

### **Genetic Processes**

- Evaluate the importance of some recent contributions to our knowledge of genetic processes, and analyze social and ethical implications of genetic and genomic research.
- Investigate genetic processes, including those that occur during meiosis, and analyze 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.

### **Evolution**

- Analyze 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 analyze 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.

### **Plants: Anatomy, Growth, and Function**

- 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.

### **Animal Structure and Function**

- Analyze 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.