

Lambton Kent Composite School



Course: Grade 12 Biology

Course Code: SBI4U

Grade: 12

Course Type: University Prep

Credit Value: 1

Prerequisite: SBI3U

Curriculum Document: The Ontario Curriculum, Grades 11 and 12, Science – 2008

Textbook: MHR Biology 12

Course Description: This course provides students with the opportunity for in-depth study of the concepts and processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biochemistry, metabolic processes, molecular genetics, homeostasis, and population dynamics. Emphasis will be placed on the achievement of detailed knowledge and the refinement of skills needed for further study in various branches of the life sciences and related fields.

Required Materials: Students are expected to come to class every day prepared with:

3 ring binder

lined paper

textbook

eraser

ruler

calculator

pencils/pens

pencil crayons

Units of Study	Big Ideas
Unit 1 – Biochemistry	<ul style="list-style-type: none">• Biological molecules and their chemical properties affect cell structure, cellular processes and biochemical reactions in all living organisms.• Food, pharmaceutical, and medical industries use technological applications that affect biological processes and cellular functions.
Unit 2 – Metabolic Processes	<ul style="list-style-type: none">• All metabolic processes involve chemical changes and energy conversions.• An understanding of metabolic processes enables people to make informed choices with respect to a range of personal, societal, and environmental issues.
Unit 3 – Molecular Genetics	<ul style="list-style-type: none">• DNA contains all the genetic information for any living organism• Proteins control a wide variety of cellular processes• Genetic research and biotechnology have social, legal, and ethical implications
Unit 4 – Homeostasis	<ul style="list-style-type: none">• Organisms have strict limits on the internal conditions that they can tolerate• Systems that maintain homeostasis rely on feedback mechanisms and can be affected by environmental factors
Unit 5 – Population Dynamics	<ul style="list-style-type: none">• Population growth follows predictable patterns• The increased consumption of resources and production of waste associated with population growth result in specific stresses that affect Earth's sustainability, BUT, which can be offset by technological developments

In addition to the units of study, students will also develop **Scientific Investigation Skills** like initiating and planning, performing and recording, analyzing and interpreting, and communicating.

Late Policy: Students are expected to submit all assignments within the time frame specified. While teachers will consider extenuating circumstances, late students are subject to mark deductions. If an assignment is late, a penalty of 10% per school day will be deducted, up to a maximum of 50%. Once assignments have been returned to the class, late submissions may receive a mark of **zero**.

Evaluation: A student's final grade in the course will be determined as follows:

70 % TERM MARK This will include a variety of evaluations such as tests, quizzes, assignments and presentations and will be marked according to the following weightings.

Knowledge and Understanding	30%	Application	25%
Communication	15%	Thinking and Inquiry	30%

30 % SUMMATIVE EVALUATION This will be a final examination based on all material covered in the course.

Student Expectations: In order to be successful in **SBI4U** all students must:

1. Attend class every day:

If you are absent it is YOUR responsibility to obtain notes from a classmate, catch up on missed work, find out about any upcoming evaluations and see the teacher if you need assistance.

2. Arrive to class prepared to work physically and mentally:

Class time is precious and should not be wasted going to your locker or to the washroom. Make sure you bring the required materials, use the washroom during breaks and are in your seat ready to work when the bell rings.

3. Complete and check all homework:

Homework and assignments are crucial to your success in science because they help to solidify and check your understanding of the topic. Homework and assignments should be completed on the day they are assigned and will be checked, taken up or discussed in class. If you have difficulty with the homework extra help is always available but YOU have to ASK.

4. Make arrangements for any missed tests/quizzes.

If you know you are going to be away on the day of a test (sport/club etc) make sure you make arrangements with the teacher to write the test at an alternate time. For unexpected absences, see the teacher BEFORE CLASS on the day you are back at school. Tests or quizzes missed due to TRUANCY will result in a mark of ZERO.

5. IPAD Policy:

In this class students will use their IPAD in a variety of ways including use of e-textbook, online resources, presentation software and Lab based apps. During class time it is expected that students will not use IPAD's for **games** or **music**. Failure to adhere to this policy will result in removal of IPAD from student use.

I understand the above expectations and I am ready to be successful in science:

STUDENT'S SIGNATURE

PARENT'S SIGNATURE



