



FOREST HILL CI

SBI4U GRADE 12 UNIVERSITY BIOLOGY COURSE OUTLINE

PREREQUISITE: GRADE 11 BIOLOGY (SBI3U)

Resources

Textbook: The grade 12 Biology textbook is "Biology 12" by Nelson. The replacement cost of the textbook is \$80.

Tools for Success/Learning Skills

Responsibility	<ul style="list-style-type: none">Understand and follow this course outline and the policies outlined in the Student Agenda.Arrive on timeCome prepared to work with all necessary tools
Organization	<ul style="list-style-type: none">Keep an organized notebookKeep an organized calendar of important dates
Independent Work	<ul style="list-style-type: none">Stay on taskAvoid disrupting the learning of others.Do homework regularly and complete all assigned workReview/study the work often
Collaboration	<ul style="list-style-type: none">Be a responsible group member.Help your peers succeed by sharing ideas, tutoring and studying togetherPrepare for labs as a team with a focus on each other's safety
Initiative	<ul style="list-style-type: none">Be active participants in the classroomAsk questions when unsure of the material & seek extra help when needed.Ensure that you get any missed handouts and catch up on missed work
Self-Regulation	<ul style="list-style-type: none">Set goals and make good choices regarding academic success.Respect yourself, classmates and teachers.

Academic Honesty: Cheating and Plagiarism

Students are expected to submit only their own original work on evaluations done in class or out of class. Plagiarism is the passing off the ideas or writings of another as one's own. Cases of academic dishonesty (cheating and/or plagiarism) will be dealt with on a case-by-case basis, but each case will involve investigation, communication with the student and his/her parent/guardian, and a mark of zero for plagiarized work. Whether the student has an opportunity to demonstrate his/her learning in another assignment will be at the discretion of the teacher and/or Principal.

Assessment and Evaluation

The primary purpose of assessment and evaluation is to improve student learning. Assessment can take on one of three forms (described below). In accordance with *Growing Success*, a student's most recent and consistent work will be taken into account.

Diagnostic	Assessment FOR learning determines how learning should proceed at the beginning of a unit.
Formative	Assessment AS learning provides feedback for a student to determine where improvement is needed. An example of this is homework.
Summative	Assessment OF learning evaluates what a student has learned at the conclusion of a unit/course. Examples include tests, quizzes, assignments and labs.

Evaluation of student achievement will be defined by four broad **Achievement Categories** (described below). The category weighting for semester work is shown.

Semester Work		70%
Knowledge & Understanding	Specific content acquired in the course and the comprehension of its meaning and significance.	25%
Thinking & Investigation	The use of critical and creative thinking skills and inquiry, research, and problem-solving skills.	25%
Communication	The conveying of meaning through various forms.	25%
Application	The use of knowledge and skills to make connections within and between various contexts.	25%
Final Exam		30%

Academic Integrity: Missed Classes, Evaluations and Assignments

It is the **responsibility of the student** to notify **all** appropriate parties (teachers, office, coach, etc) **in advance** where appropriate and in compliance with school policies and procedures as per student agenda if the student will be absent. This allows for both the student and teacher to make alternative arrangements regarding missed assignments or evaluations. In the event that advance notice is not possible, students should seek out the teacher in the morning (before school) with the appropriate documentation (e.g. Doctor's note, photocopied note from the office) in order to ensure that they have the opportunity to make-up the missed evaluation/assignment and course work.

Overall Course Expectations

A. SCIENTIFIC INVESTIGATION SKILLS AND CAREER

EXPLORATION

Throughout this course, students will:

- demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating);
- identify and describe a variety of careers related to the fields of science under study, and identify scientists, including Canadians, who have made contributions to those fields.

B. Biochemistry

- analyze technological applications of enzymes in some industrial processes, and evaluate technological advances in the field of cellular biology
- investigate the chemical structures, functions, and chemical properties of biological molecules involved in some common cellular processes and biochemical reactions
- demonstrate an understanding of the structures and functions of biological molecules, and the biochemical reactions required to maintain normal cellular function

C. Metabolic Processes

- analyze the role of metabolic processes in the functioning of biotic and abiotic systems, and evaluate the importance of an understanding of these processes and related technologies to personal choices made in everyday life
- investigate the products of metabolic processes such as cellular respiration and photosynthesis
- demonstrate an understanding of the chemical changes and energy conversions that occur in metabolic processes

D. Molecular Genetics

- analyze some of the social, ethical, and legal issues associated with genetic research and biotechnology
- investigate through laboratory activities, the structures of cell components and their roles in processes that occur within the cell
- demonstrate an understanding of concepts related to molecular genetics, and how genetic modification is applied in industry and agriculture

E. Homeostasis

- evaluate the impact on the human body of selected chemical substances and of environmental factors related to human activity
- investigate the feedback mechanisms that maintain homeostasis in living organisms
- demonstrate an understanding of the anatomy and physiology of human body systems, and explain the mechanisms that enable the body to maintain homeostasis

F. Population Dynamics

- Analyze the relationships between population growth, personal consumption, technological development, and our ecological footprint, and assess the effectiveness of some Canadian initiatives intended to assist expanding populations
- Investigate the characteristics of population growth, and use models to calculate the growth of populations within an ecosystem
- Demonstrate an understanding of concepts related to population growth, and explain the factors that affect the growth of various populations of species