

Sir Wilfrid Laurier Secondary School
Grade 12 University Preparation Biology – SBI4U
1.0 credits

Course Description

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 biochemistry, metabolic processes, molecular genetics, homeostasis, and population dynamics. Emphasis will be placed on achievement of the detailed knowledge and refined skills needed for further study in various branches of the life sciences and related fields.

Strands and Subgroups

<p>Biochemistry</p> <ul style="list-style-type: none"> • macromolecules • cell parts (structure and function) • passive and active transport • enzyme activity 	<p>Metabolic Processes</p> <ul style="list-style-type: none"> • cellular respiration • photosynthesis • energy transformation
<p>Molecular Genetics</p> <ul style="list-style-type: none"> • DNA structure, replication and repair • protein synthesis • control mechanisms • mutations • biotechnology tools and techniques 	<p>Homeostasis</p> <ul style="list-style-type: none"> • thermoregulation • urine formation • water balance • hormones and diabetes • hormones and the menstrual cycle • nervous impulses • the CNS • fighting disease
<p>Population Dynamics</p> <ul style="list-style-type: none"> • population characteristics • estimating population sizes • symbiotic relationships • human demographics • waste management 	

Evaluation

The final report card mark will be determined as follows:

Term Work – 70%	Summative – 30%
<p style="text-align: center;">Tests Labs Projects Classwork</p>	<p style="text-align: center;">Exam and/or Performance Task</p>

Attendance & Missed Evaluations

Regular attendance is an integral part of learning. Students are responsible for completing all work missed due to absence. Students must complete the missed evaluation immediately upon return to school, during out-of-class time.

End-of-course evaluations, i.e. the summative activity and final examination are time-sensitive. Attendance is mandatory for these evaluations. Any absence will result in a mark of zero, unless validated by a doctor's certificate.

If a student participates in **academic fraud** (e.g. plagiarism in assignments/lab reports), he / she is deemed not to have met the expectations associated with that particular evaluation.

A mark of zero will be given for late assignments/labs/projects that exceed the limits. (10% deduction per day; mark of zero on fifth day if not handed in).

General Course Information

Students must bring the following materials to each class:

- textbook
- separate Science binder (to hold notes, tests, quizzes, handouts)
- pencil case (to hold pencils, erasers, ruler)
- scientific calculator
- lined paper

Course Text *Biology 12*, Thomson-Nelson (\$116, HST included).

The student will be issued a text, and will be responsible for the cost of replacement, or repair, if the text is lost or damaged.
