

## Course Outline

### SBI4U1 - Biology, Grade 12, University Preparation

All courses within HDSB are taught in learning environments that promote inclusive education, and identify and eliminate discriminatory biases, systemic barriers, and power dynamics that limit the ability of students to participate, learn, grow, and succeed. All students see themselves reflected in the curriculum, their physical surroundings, and the broader environment, so that they are engaged in and empowered by their learning experiences.



*The expectations in Grade 12 Biology, University Preparation are organized in six strands, the first focusing on scientific investigation skills and the remaining five representing major topics in the study of biology. The six strands are as follows:*

<b>Scientific Investigation Skills and Career Exploration</b> <ul style="list-style-type: none"><li>□ Demonstrate scientific investigation skills in four areas: initiating and planning, performing and recording, analysing and interpreting and communicating.</li><li>□ 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.</li></ul>	<b>Biochemistry</b> <ul style="list-style-type: none"><li>□ Technological applications that affect biological processes and cellular functions are used in the food, pharmaceutical, and medical industries.</li><li>□ Biological molecules and their chemical properties affect cellular processes and biochemical reactions.</li><li>□ Biochemical compounds play important structural and functional roles in cells of all living organisms.</li></ul>
<b>Metabolic Processes</b> <ul style="list-style-type: none"><li>□ All metabolic processes involve chemical changes and energy conversions.</li><li>□ An understanding of metabolic processes enables people to make informed choices with respect to a range of personal, societal, and environmental issues.</li></ul>	<b>Molecular Genetics</b> <ul style="list-style-type: none"><li>□ DNA contains all the genetic information for any living organism.</li><li>□ Proteins control a wide variety of cellular processes.</li><li>□ Genetic research and biotechnology have social, legal, and ethical implications.</li></ul>
<b>Homeostasis</b> <ul style="list-style-type: none"><li>□ Organisms have strict limits on the internal conditions that they can tolerate.</li><li>□ Systems that maintain homeostasis rely on feedback mechanisms.</li><li>□ Environmental factors can affect homeostasis.</li></ul>	<b>Population Dynamics</b> <ul style="list-style-type: none"><li>□ Population growth follows predictable patterns.</li><li>□ The increased consumption of resources and production of waste associated with population growth result in specific stresses that affect Earth's sustainability.</li><li>□ Technological developments can contribute to or help offset the ecological footprint associated with population growth and the consumption of natural resources.</li></ul>

#### Learning Skills & Work Habits

- Responsibility
- Organization
- Self-Regulation
- Independent Work
- Collaboration
- Initiative

Learning skills and work habits are an important part of your growth. Learning Skills and Work Habits will be taught, assessed, evaluated, and shared on your report card. This gives you and your parents/guardians valuable information about your learning.

<b>How your grades will be determined</b>	
<p>Your work throughout the semester accounts for <b>70%</b> of your final grade:</p> <ul style="list-style-type: none"> <li>• Your teacher will collect and track evidence of your learning through observations of your work; conversations with you; and by evaluating the work you produce.</li> <li>• Your teacher will provide feedback to help you with further study and improvement</li> <li>• Your 70% work will be returned for your review and reflection.</li> </ul>	<p>15% <b>Knowledge &amp; Understanding:</b> subject-specific content acquired (knowledge), and the comprehension of its meaning and significance (understanding).</p> <p>20% <b>Application:</b> use of knowledge and skills to make connections within and between various contexts.</p> <p>20% <b>Thinking:</b> use of critical and creative thinking skills and/or processes.</p> <p>15% <b>Communication:</b> conveying of meaning through various forms (oral, visual, and/or written).</p> <p><i>(The Science Teacher Subject Council has determined the weightings of the above categories for this course)</i></p>
<p>The Final Evaluations account for <b>30%</b> of your final grade<sup>3</sup>:</p> <ul style="list-style-type: none"> <li>• Final Evaluations will challenge you to demonstrate your knowledge and skills related to the overall expectations for the course</li> </ul>	<p><b>15% In Class Final Evaluation:</b></p> <p>This portion of your Final Evaluation will take place in class at or near the end of your course during protected time. It will not require significant preparation outside of class time.<sup>2</sup></p> <hr/> <p><b>15% Evaluation Block Final Evaluation:</b></p> <p>This portion will take place during the Evaluation Block of time after classes end and will be a maximum duration of 2 hours.</p>
<p>Your <b>final grade</b> will be calculated by combining your Term (70%) grade and your Final Evaluations (30%).</p>	

For more information about what you need to know about...

- 1) [Meeting Timelines and Academic Honesty](https://goo.gl/KTAh40)<sup>1</sup> - goo.gl/KTAh40
- 2) [Final 30% Evaluations](https://goo.gl/W82PYL)<sup>2</sup> - goo.gl/W82PYL
- 3) [Determining Report Card Grade](https://goo.gl/FuzbMW)<sup>3</sup> - goo.gl/FuzbMW

Your teacher can provide you with a paper copy of this information if required.