

CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	BIOL 101	Course Title	Introduction to Biology I			
Credit Value	4	Department	Mathematics and Science			
No. of weeks	14	Hrs. per week	<i>Lecture</i>	<i>Tutorial</i>	<i>Laboratory</i>	<i>Total</i>
			3	0	3	6
Course Description	This survey course is designed for non-science students with an interest in biology and the place of humans in nature. The course focuses on evolution, energetics, genetics, biotechnology, cellular and molecular perspectives on biology, and examines the place of humans in the biosphere. An emphasis is placed on the role of biology in everyday life and society.					
Prerequisite(s)	ENGL 099, One of: Biology 11 or 12 & One of: Chemistry 11 or 12, or BIOL 100 (B or higher)					
Initial Articulation Targets	<i>UBC</i>	<i>SFU</i>	<i>UVic</i>	<i>UNBC</i>	<i>TRU</i>	
	BIOL 1st (4) ALEX BIOL 101 & ALEX BIOL 102 (4) = UBC BIOL 1st (8) and exempt from UBC BIOL 111, 121, 140	BISC 101 (4), B-Sci	BIOL 1XX (1.5); ALEX BIOL 101 (4) & ALEX BIOL 102 (4) = UVIC BIOL 184 (1.5) & UVIC BIOL 186 (1.5)	BIOL 103 (3) & BIOL 123 (1)	BIOL 1XX0 (3); ALEX BIOL 101 (4) & ALEX BIOL 102 (4) = TRU BIOL 1110 (3) & TRU BIOL 1210 (3)	
For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca						
Learning Outcomes	<p>Upon successful completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> • Examine the major features of biomolecules and cells • Relate structure and function at the molecular and cellular levels of organization • Compare and contrast energy transformations in cellular respiration and photosynthesis and explain the importance of energy coupling in living systems • Recognize the genetic code and outline the steps in the flow of information in cells and be able to predict the sequence of amino acids in a protein given the sequence of nucleotides in DNA • Explain transport and development mechanisms in plants • Describe the structure and physiology of animal systems, such as the nervous, endocrine, respiratory, circulatory, digestive, excretory, and reproductive systems and predict the outcome when these systems are disturbed. 					



Content	<p>Core topics – all of the following will be covered:</p> <ul style="list-style-type: none">• Introduction, big ideas in biology• Water, Biomolecules• Enzymes• Cell structures and functions• Cell membranes• The cell cycle, mitosis, cancer• Cellular respiration• Photosynthesis• DNA replication, transcription, translation• Introduction to plants• Plant transport, nutrition, reproduction, development, responses to the environment• Introduction to animals• Animal gas exchange, circulation, nervous systems, homeostasis, endocrine systems, digestion, excretion, reproduction <p>Additional topics may also be covered, at the discretion of the instructor.</p> <p>Labs:</p> <ul style="list-style-type: none">• Enzymes• Paper Chromatography• Mitosis• Photosynthesis• Cellular Respiration• Agarose Gel• Examining Stomata• Flower Dissection• Red Blood Cell (RBC) Microscopy/Blood Pressure
Methods of Instruction	Lectures, demonstrations, small group discussions, case study analysis, concept mapping, and internet research.
Required Textbook(s)	<p>The following textbook(s) is/are required, or approved equivalent(s).</p> <p>Clark, Mary Ann, Matthew Douglas, and Jung Choi. <i>Biology 2e</i>. OpenStax.</p> <p>or</p> <p>Freeman, Scott, Michael Harrington, and Joan C. Sharp. <i>Biological Science: Canadian Edition with Mastering Biology</i>. Pearson, Latest edition.</p> <p>or</p> <p>Freeman, Scott. <i>Biological Science</i>. Benjamin Cummings, Latest edition.</p>



Required Equipment and Technology	<p>Students are required to have a computer with internet access.</p> <p>The following resources are provided by the College:</p> <ul style="list-style-type: none"> • Office 365 • Student email 		
Homework Hours	At minimum, students can expect one hour of homework for every hour of instructional time.		
Evaluation	<i>Component</i>	<i>% Value</i>	
	Quizzes and assignments	10-15%	
	Laboratory experiments and activities	15-20%	
	• Weight divided over 9 labs		
	Comprehensive laboratory exam	15-20%	
Midterm exam	15-20%		
Comprehensive final exam	30-35%		
Completion Requirements	The minimum grade to pass this course is D (50%). Unless otherwise stated, a minimum grade of C- (55%) is required for this course to fulfil a prerequisite.		
Course Designer(s)	Barbara Moon, Ph.D. Professor Emeritus, Department of Biology, University of the Fraser Valley	Consultant(s), <i>if applicable</i>	
Dean's Approval	Marv Westrom, Ph.D. Professor Emeritus, Faculty of Education, University of British Columbia	Dean's Approval Date	September 27, 2006
Curriculum Committee Approval Date	September 27, 2006	First Term Offered	Winter 2007
Last Review Date	September 1, 2024	Next Review Date	September 1, 2029
Revision History	<p>May 16, 2011-Revision</p> <p>September 1, 2024 – Laboratory assessments revised by Kelly Cheung.</p>		