Alexander College
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CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	BIOL 100	Course Title	Introductory Biology			
Credit Value	4	Department	Mathematics and Science			
No. of weeks	14	Hrs. per week	*Lecture*	*Tutorial*	*Laboratory*	*Total*
			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					

Initial Articulation Targets	*UBC*	*SFU*	*UVic*	*UNBC*	*TRU*
	BIOL 1st (3) *Not for credit in Science	BISC 100 (3) B-Sci	BIOL 100 Lev (1.5)	BIOL 1XX (3)	BIOL 1050 (3) *Not for credit in Science
	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca				

Learning Outcomes

Upon successful completion of this course, the student will be able to:

- Describe the fundamental biological principles including cell structure and function, mitosis, cancer, meiosis, and how these relate to the humans and other multicellular organism
- Examine basic cellular metabolism and the interactions between cellular respiration and photosynthesis
- Interpret basic patterns of inheritance
- Analyze the cellular basis and mode of inheritance of select human genetic disorders
- Explain advances in biotechnologies
- Describe the evolutionary processes that have led to the formation of multicellular organisms
- Distinguish between several aspects of population dynamics and population growth
- Identify and recognize examples of community and ecosystem interactions
- Utilize the scientific method
- Use data sampling techniques to collect biological data
- Analyze and interpret basic research data

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Content	**Core** topics – all of the following will be covered: • Using the Scientific Method to Study Life • Chemical Basis of Life • Molecules of Cells • Cell Structure • Cellular Function • Introduction to cellular energetics • Cellular respiration • Photosynthesis • Cellular Basis of Reproduction and Inheritance. Cellular Basis of Cancer • Patterns of Inheritance • Molecular Biology of the Gene • Control of Gene Expression • DNA Technology and the Human Genome • How Populations Evolve • The Origin of Species • Tracing Evolutionary History • Population Dynamics • Communities and Ecosystems • Behavioral Adaptations to the Environment • Conservation Biology Additional topics may also be covered, at the discretion of the instructor: • Human Evolution Labs: • Scientific Method • Biomolecules • Osmosis and Diffusion • Microscopy • DNA • Mitosis and the Cell Cycle • Making Evolution Stick • Data Analysis using Excel • Plants
Methods of Instruction	Lectures, demonstrations, small group discussions, case study analysis, concept mapping, and internet research.
Required Textbook(s)	The following textbook(s) is/are required, or approved equivalent(s). Phelan, J. *What is Life? A Guide for Biology.* 3rd edition. W.H. Freeman & Company, 2014.

<table>
<tr><td>Required Equipment and Technology</td><td colspan="3">Students are required to have a computer with internet access.
The following resources are provided by the College:
• Office 365
• Student email</td></tr>
<tr><td>Homework Hours</td><td colspan="3">At minimum, students can expect one hour of homework for every hour of instructional time.</td></tr>
<tr><td rowspan="6">Evaluation</td><td>Component</td><td colspan="2">% Value</td></tr>
<tr><td>Quizzes and assignments</td><td colspan="2">10-15%</td></tr>
<tr><td>Laboratory experiments and activities
• Weight divided over 9 labs</td><td colspan="2">15-20%</td></tr>
<tr><td>Comprehensive laboratory exam</td><td colspan="2">15-20%</td></tr>
<tr><td>Midterm exam</td><td colspan="2">15-20%</td></tr>
<tr><td>Comprehensive final exam</td><td colspan="2">30-35%</td></tr>
<tr><td>Completion Requirements</td><td colspan="3">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.</td></tr>
<tr><td>Course Designer(s)</td><td>Barbara Moon, Ph.D.
Professor Emeritus, Department of Biology, University of the Fraser Valley</td><td>Consultant(s), if applicable</td><td></td></tr>
<tr><td>Dean’s Approval</td><td>Marv Westrom, Ph.D. Professor Emeritus, Faculty of Education, University of British Columbia</td><td>Dean’s Approval Date</td><td>September 27, 2006</td></tr>
<tr><td>Curriculum Committee Approval Date</td><td>September 27, 2006</td><td>First Term Offered</td><td>Spring 2007</td></tr>
<tr><td>Last Review Date</td><td>September 1, 2024</td><td>Next Review Date</td><td>September 1, 2029</td></tr>
<tr><td>Revision History</td><td colspan="3">August 25, 2006-Revised for articulation to SFU by Barbara Moon.

June 28, 2016-Course title changed from ‘Introduction to Biology’ to ‘Introductory Biology’ per Barbara Moon.

March 1, 2023-Minor updates (e.g., assessment ranges, textbooks) by Lindsey Spielman and Carol Pollock

September 1, 2024 – Laboratory assessment revised by Kelly Cheung in consultation with Biology faculty.</td></tr>
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