Alexander College
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CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	BIOL 102	Course Title	Introduction to Biology II			
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 course is designed as one of a pair of introductory courses in biology. It includes the study of evolution and the diversity of life on the planet, genetics, and a study of the interaction of organisms with one another and their physical environment.					
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	*UBC*	*SFU*	*UVic*	*UNBC*	*TRU*
	BIOL 1st (4) ALEX BIOL 101 & ALEX BIOL 102 (4) = UBC BIOL 1st (8) and exempt from UBC BIOL 111, 121, 140	BISC 102 (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 104 (3) & BIOL 124 (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

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

- Evaluate evidence for the central role of evolution in biology
- Predict how sources of variation and evolutionary mechanisms contribute to changing allelic and phenotypic frequencies in a population
- Analyze the relatedness of organisms through interpretation of phylogenetic trees
- Analyze the mechanisms of genetic inheritance and predict the outcome of genetic crosses
- Describe how populations and species change over time
- Explain how organisms interact with each other and their environment
- Apply scientific methodologies by implementing an independent research project

Alexander College
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Content	**Core** topics – all of the following will be covered: • Big ideas in biology • Introduction to life on earth • Meiosis and sex • Mendelian genetics • Darwin • Natural selection • Macroevolution and microevolution • Speciation • Phylogeny and history of life • Diversity of bacteria, fungi, viruses, protists, plants • Diversity of animals • Evolution of humans • Sexual selection • Evolution of development • Introduction to ecology • Animal behavior • Population ecology • Community ecology • Conservation and biodiversity Additional topics may also be covered, at the discretion of the instructor: Labs: • Meiosis • Genetics • Bloodtyping • Natural Selection • Gram Staining • Scientific Method and Excel Analysis • Animal Diversity and Squid Dissection • Ecology and Barn Owl Pellet Dissection
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). Freeman, Scott et al. Biological Science. 3rd Canadian Edition. Pearson, 2020. or Freeman, Scott et al. Biological Science. 6th Ed. Pearson, 2016.

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<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 8 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>Winter 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">May 16, 2011-Revision by Barbara Moon

September 1, 2024 – Laboratory assessments revised by Kelly Cheung.</td></tr>
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