

**DEPARTMENT OF SCIENCE
COURSE OUTLINE – FALL 2022**

**BI1050 (A2): THE ORGANIZATION AND DIVERSITY OF LIFE
3 (3-0-0) 45 Hours for 15 Weeks**

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR: Dr. Jessie Zgurski **PHONE:** (780) 903 6313
OFFICE: J221 **E-MAIL:** JZgurski@nwpolytech.ca
OFFICE HOURS: Monday 12:00 – 2:00 PM, Tuesday, & Thursday 11:30 AM – 2:00 PM, or
by appointment.

CALENDAR DESCRIPTION: A study of biological concepts and mechanisms illustrated by current examples of medical and environmental problems.

PREREQUISITE(S)/COREQUISITE: None

RECOMMENDED TEXT/RESOURCE MATERIALS: “Campbell Essential Biology 7th Edition,” by Eric J. Simon, Jean L. Dickey, and Jane B. Reece. Pearson Publishing. ISBN-13: 978-0-13-476503-7 (Recommended Textbook).

DELIVERY MODE(S): Lectures, Tuesday and Thursday, 2:30 – 3:50 PM, J202

COURSE OBJECTIVES: Students will gain an understanding of basic biological concepts with a focus on cell biology, genetics, evolution, and diversity.

LEARNING OUTCOMES: By the end of this course, students should be able to:

- Explain the scientific method and the process of hypothesis testing.
- Critically evaluate scientific information.
- Identify and describe the macromolecules of life and explain their functions in cells and organisms.
- Describe the structure of a eukaryotic cell and the functions of its organelles.
- Describe the basic structure of DNA and explain the basic mechanisms of inheritance.
- Describe how the modern theory of evolution was developed and explain the process of evolution via natural selection.

TRANSFERABILITY: Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferralberta.ca>.

**** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS: Midterm 1 (October 6) – 15 %
 Midterm 2 (November 15) – 20 %
 Final Exam (Exam week) – 30 %
 Assignments (X 4) – 35 %

Exams are not cumulative, and students will be permitted to bring a single page (one-sided) of notes to each exam. Other than a calculator, no computing devices will be permitted during exams, unless they are part of an approved disability accommodations plan. If you must miss an exam for a compelling reason (such as an illness), please contact the instructor to arrange an alternate exam date.

GRADING CRITERIA: Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

Dates	Topic	Textbook Reading
September 1, 6	Topic 1: Overview of the Process of Science and the Study of Biology.	Chapter 1: 3 - 20
September 8, 13, 15	Topic 2: Chemistry for Biology and the Chemistry of Life	Chapters 2, 3: 22 - 53
September 15, 20	Topic 3: Introduction to Cell Biology	Chapter 4: 54 - 73
September 20, 22, 27	Topic 4: Introduction to Metabolism (“Working Cell”), Assignment 1 Due September 27.	Chapter 5: 74 - 89
September 29, October 4	Topic 5: Cellular Respiration.	Chapter 6: 90 – 104
October 6	Midterm 1	N/A
October 11, 13	No Classes: Fall Break	N/A

Dates	Topic	Textbook Reading
October 18, 20	Topic 6: Photosynthesis, Assignment 2 Due October 18.	Chapter 7: 106 - 119
October 25, 27	Topic 7: Cell Division	Chapter 8: 119 - 143
October 27, November 1, 3, 8.	Topic 8 – Patterns of Inheritance	Chapter 9: 144 - 169
November 10	Topic 10 – How Populations Evolve, Assignment 3 Due November 10	N/A
November 15	Midterm 2	
November 17, 22	Topic 10 – How Populations Evolve (cont'd)	Chapter 13: 268 - 291
November 22, 24, 29	Topic 12 – Evolution of Plants and Fungi, Assignment 4 Due November 24, Submit a hard copy.	Chapter 16: 314 - 335
November 29, December 1, 6, 8.	Topic 13 – Evolution of Animal Life	Chapter 17: 336 - 370

STUDENT RESPONSIBILITIES: Students are responsible for completing and submitting work on time. Late assignments will be docked 10% of the mark. However, if you have a compelling reason for requiring an extension, please contact the instructor and the late penalty may be waived. I recommend checking your college Email daily for potential course announcements.

STATEMENT ON PLAGIARISM AND CHEATING: Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Right and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>

****Note:** all Academic and Administrative policies are available on the same page.

ADDITIONAL INFORMATION: Copies of the lecture PowerPoint presentations will be made available on the course website. Other learning resources, including past exam questions and videos, will be added to the page during the semester. Students with credit in BI1050 will not receive credit in BI1070 or BI1080.

ACCESSIBILITY SUPPORTS AND DISABILITY SERVICES: If you require disability-related accommodations and support, please contact the Accessibility Supports and Disability Services office. Their Email address is AS@nwpolytech.ca and their website is <https://libguides.nwpolytech.ca/learningcommons/AccessibilityServices>

MENTAL HEALTH SUPPORTS: NWP students have access to mental health counselling services. Please do not hesitate to seek help if you are suffering from issues such as anxiety, depression, trauma, grief, or any coping-related concerns. Go to <http://www.mystudentsupport.com/> or call 1-855-849-8641 to speak to a counsellor. The NWP website also has mental health supports available. Please visit https://www.nwpolytech.ca/services/mental_health/students.html/ for more information.