NORTHWESTERN POLYTECHNIC

DEPARTMENT OF SCIENCE

COURSE OUTLINE – FALL 2024

BI1050 (A2): THE ORGANIZATION AND DIVERISTY 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:	Tuesday/Thursday 1:00 – 4:00 PM, walk-in, 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: Fowler, S., Roush, R, and Wise, J. 2023. Concepts of Biology. Open Stax. Available https://openstax.org/details/books/concepts-biology/

DELIVERY MODE(S): Lectures Tuesday and Thursday, 11:30 AM – 12:20 PM, in J204.

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.
- Be able to list the characteristics that define the major groups of plants and animals.

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.transferalberta.ca. Students with credit in BI1050 will not receive credit in BI1070 or BI1080.

** 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 period) – 30 %
Assignments (X 4) – 35 %

Exams are not cumulative, and students will be permitted to bring a half 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.

The final exam period is from December 12 to 22, 2024, and the precise time and place of the exam will be determined by the registrar's office. Please be available to write final exams on campus during exam week.

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	95-100		C+	2.3	67-69
A	4.0	94-85		C	2.0r	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 3, 5	Topic 1: Overview of the Process of Science and the Study of Biology.	Chapter 1
September 10, 12, 17	Topic 2: Chemistry for Biology and the Chemistry of Life	Chapter 2
September 17, 19, 24	Topic 3: Introduction to Cell Biology	Chapter 3
September 24, 26	Topic 4: Cellular Respiration	Chapter 4
October 1, 3	Topic 5: Photosynthesis	Chapter 5
October 8	**Midterm 1**	**Covers Chapter 1 - 4**

Dates	Topic	Textbook Reading
October 10, 15	Topic 6: Cell Division (Mitosis and Meiosis)	Chapters 6 & 7
October 17, 22, 24	Topic 7: Patterns of Inheritance	Chapter 8
October 29, 31	Topic 8: Molecular Biology and Biotechnology	Chapters 9, 10
November 7	**Midterm 2**	
November 5, 19, 21	Topic 9 – Evolution	Chapters 11 & 12
November 12, 14	**No Class – Fall Break**	N/A
November 21, 26, 28	Topic 10 – Evolution of Plants and Fungi	Chapter 14
December 3, 5, 10	Topic 11 – Evolution of Animal Life	Chapter 15

STUDENT RESPONSIBILITIES: Students are responsible for completing and submitting work on time. Late assignments will be docked 5% of the mark per day late, and assignments that are more than one week late will not be accepted. However, if you have a compelling reason for requiring an extension, please contact the instructor. Assignments that are not completed will receive a grade of zero.

You are expected to take notes in this class. Copies of the lecture PowerPoint presentations will be made available on the course website prior to the lectures. I recommend printing out copies of the PowerPoint files prior to class and writing additional notes on them during lecture. Alternatively, you can load them up on your tablet or e-reader and take notes that way. The PowerPoints are designed to be filled out during lecture. Other learning resources, including practice exam questions, will be added to the course D2L page during the semester. Students are expected to frequently check the course website and their college E-mail accounts for announcements regarding the class.

Phones should be put away during this class and tablets and computers should only be used for taking notes. Using electronic devices to play games, watch videos, shop, or browse social media is distracting to other students and inconsiderate to the instructor. Except in cases of approved accommodations from Accessibility Supports and Disability Services, students are not permitted to take photos or make audio/video recordings during class.

STATEMENT ON PLAGIARISM AND CHEATING: Cheating and plagiarism will not be tolerated and there will be penalties for it. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Calendar at https://www.nwpolytech.ca/programs/calendar/ or the College Policy on Student Misconduct: Plagiarism and Cheating at https://www.nwpolytech.ca/about/administration/policies/index.html

ACCESSIBILTY 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.