

DEPARTMENT OF SCIENCE COURSE OUTLINE – Winter 2026

BI1080 (A2): Introduction to Biological Diversity – 3 (3-1-3) 105 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:	780-539-2863
OFFICE:	J221	E-MAIL:	JZgurski@nwpolytech.ca
OFFICE HOURS:	Drop-in (my schedule is on my office door), or by appointment.		

CALENDAR DESCRIPTION: This course examines the major lineages of life on Earth. It provides an overview of evolutionary principles and classification, the history of life, and the key adaptations of prokaryotes, protists, fungi, plants, and animals. Laboratories survey the diversity of biological form and function and introduce students to data collection and scientific writing.

PREREQUISITE(S)/COREQUISITE: Biology 30 (Prerequisite)

REQUIRED TEXT/RESOURCE MATERIALS:

1) Urry, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P. V., Orr, R. B., Hull, K. L., Rawle, F. E., Durnford, D. G., Moyes, C. D., and Scott, K. G. E. 2024. Campbell Biology, 4th Canadian Edition. Pearson Canada. (Recommended – The 3rd Edition is also acceptable).

2) Biology 1080 Lab Manual (Required – Available at the Bookstore)

3) Binder for Biology 1080 Lab Manual (and other lab handouts) – It should be able to hold about 200 pages.

DELIVERY MODE(S): Lectures (Tuesday and Thursday, 8:30 – 9:50 AM in J204), Laboratory (Wednesday or Friday, 2:30 – 5:20 PM in J130), Seminars (Monday 11:30 AM – 12:20 PM in J204 or Friday 10:00 – 10:50 AM in J204).

LEARNING OUTCOMES: By the end of the course, students should:

- Understand how to use the scientific method to test biological hypotheses.
- Be able to describe the process of natural selection and provide examples of the evidence for evolution via natural selection.
- Be able to use current phylogenetic and taxonomic nomenclature to discuss the evolution of life on Earth.
- Be able to list the characteristics that define the major clades of life, including the eukaryotes, fungi, land plants, vascular plants, seed plants, flowering plants, chordates, and amniotes.

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.alberta.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:	Laboratory	40% (Labs start January 14 or 16, 2026)
	Seminar	10% (Seminars start January 12 or 16, 2026)
	Midterm	20% (In class, February 26, 2026)
	Final Exam	30% (During exam week, exact time and place TBA)

The final exam period is from April 16 to 23, 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-**.

All marks will be assigned according to the criteria outlined in this syllabus.

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	85-94		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:

Lecture Schedule – Winter 2026		
LECTURE TOPIC	Readings (Campbell's Biology)	
	Dates (Approximate)	Textbook Chapter
Introduction to BI1080	January 6	-
1. Unifying Themes in Biology	January 6, 8	Chapter 1
2. Taxonomy, Phylogeny & Systematics	January 13, 15, 20	Chapter 26
3. Descent with Modification	January 20, 22	Chapter 22
4. Evolution of Populations	January 27, 29, February 3	Chapter 23
5. Origin of Species	February 3, 5	Chapter 24
6. History of Life	February 10, 12	Chapter 25
Winter Break – No Classes	February 17, 19	N/A
Midterm	February 26	Covers Topics 1 - 6
7. Protists	February 24, March 3, 5	Chapter 28
8. Plants – Colonization of Land	March 10, 12	Chapter 29
9. Plants – Seed & Flowering plants	March 12, 17	Chapter 30
10. Fungi	March 17, 19	Chapter 31

Lecture Schedule – Winter 2026		
LECTURE TOPIC	Readings (Campbell's Biology)	
	Dates (Approximate)	Textbook Chapter
12. Animals – Overview and Invertebrates	March 24, 26, 31, April 2	Chapter 33
13. Animals – Chordates/Vertebrates	April 2, 7, 9	Chapter 34
Final Exam	TBA – Exam Week	Covers Topics 7 – 13, and Selected Material from 1 – 6.

Laboratory and seminar schedules will be posted on the course website.

STUDENT RESPONSIBILITIES: For our first laboratory (on January 14 or 16, depending on your lab section), please bring a copy of the lab manual, a binder, and something to write with. Please wear closed-toe shoes. Lab coats and gloves will be provided.

Seminars start during the second week of class, so the first seminars will be held on January 14 or 16, depending on your section. Please bring paper and something to write with. During seminars, you will learn skills that will be necessary to write lab reports, such as how to conduct the required analytical statistical tests. You will also work on questions and problems related to the lecture material. There will also be quizzes on course material, and some short assignments, many of which you can complete during the seminar.

Students are responsible for completing and submitting work on time. Late assignments will typically be docked 5% of the mark per day late. No assignments will be accepted if they are more than one week late. Assignments not handed in will receive a mark of zero.

The midterm will be conducted in class on February 26 and the laboratory final will be delivered during the last laboratory period on April 8 or 10. A calculator will be permitted during the midterm and the laboratory final; otherwise, electronic devices (including cell phones, 'smart' watches, and 'smart' glasses) are prohibited during exams. Students who cannot write the midterm or laboratory exam during the scheduled time due to a serious illness or another compelling reason must arrange to write it later. The final exam will be held during exam week. Failure to write the final exam will result in a grade of zero unless the exam was missed for a compelling reason (such as an illness). In such a case, the exam will be deferred.

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 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 and pre-lab PowerPoint presentations, will be added to the course web page during the semester.

Phones should be put away during this class (including during labs or seminars), 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 ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

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

Please note that all assignments completed for this class, except for the rat and perch dissection diagrams, must be completed individually.

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>