NORTHWESTERN POLYTECHNIC

**DEPARTMENT OF ACADEMIC UPGRADING**

**COURSE OUTLINE – Fall 2024**

**BI0130 (A2): Biology Grade 12 Equivalent– 5 (5-0-2) 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:** Maiya Sears
**OFFICE:** C405
**OFFICE HOURS:** By appointment

**PHONE:** (780) 539-2766
**E-MAIL:** MSears@nwpolytech.ca

**CALENDAR DESCRIPTION:** The concepts in this course include nervous and endocrine systems; human reproduction and development; cell division, genetics, and molecular biology; populations and community dynamics.

**PREREQUISITE(S):** Complete all of the following:

- BI0120 (Biology 20)
- EN0120 (English 20-1 or 20-2)
- MA0110 (Math 10C) or MA0123 (Math 20-3)
- A student may register in BI0130 if the student has achieved a mark of 60% or better in Alberta Education Biology 20 within the previous four years or permission of the instructor.

**REQUIRED TEXT/RESOURCE MATERIALS:** Inquiry into Biology-McGraw-Hill Ryerson. You must also print the lab manual which will be available on D2L.

**DELIVERY MODE(S):**

- On-campus (attend on-campus, in-person) – This type of course will be delivered on campus in a specific location which will be indicated on the student timetable. Students are expected to fully attend in person.
- On-campus, in-person classroom instruction with laboratory components. Materials will be delivered in a lecture-style format with practice questions incorporated into presentations when possible. Use of D2L is required.

**LEARNING OUTCOMES:** As stated by Alberta Education, upon successful completion of this course the student will be able to:

- Explain how the nervous system controls physiological processes
- Explain how the endocrine system contributes to homeostasis
- Explain how survival of the human species is ensured through reproduction
- Explain how human reproduction is regulated by chemical control systems
- Explain how cell differentiation and development in the human organism are regulated by a combination of genetic, endocrine and environmental factors.
- Describe the processes of mitosis and meiosis
- Explain the basic rules and processes associated with the transmission of genetic characteristics
- Explain classical genetics at the molecular level
- Describe a community as a composite of populations in which individuals contribute to a gene pool that can change over time
- Explain the interaction of individuals in a population with one another and with members of other populations and explain, in quantitative terms, the change in populations over time
- Lab Skill objectives (focus on scientific inquiry): Initiate, plan, perform, record, analyze, interpret, communicate and work in a team

**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.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.**

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**EVALUATIONS:** Final grades will be assigned based on the following components.

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| Labs, Quizzes, Presentations | 15% |
| Unit 1 Exam | 15% |
| Midterm | 25% |
| Unit 3 Exam | 15% |
| Final | 30% |

All tests and exams MUST be written at the scheduled times. A missed test (exam) will result in a score of ZERO on that test (exam). To defer an exam due to illness you will require a medical note. Quizzes will be online and open book; they will close a week after they open. No opportunity will be provided for missed quizzes and thus a missed quiz will result in an automatic 0. The final exam is 3 hours long and is scheduled by the registrars' office during NWP Exam weeks.

**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 | 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:** Labs will be held every week on Friday, beginning the second week of class (September 13). Quizzes will occur during lab periods. Unit tests and the midterm exam will also be held during lab days to allow sufficient time for completion. All dates are tentative.

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|---|---|
| Unit 1 Exam | October 4 |
| STI Presentation (in lab) | October 11 |
| **Midterm** (covers Units 1&2) | October 18 |
| *Fall Break* | November 11-15 |
| Unit 3 Exam | November 29 |
| **Final Exam** (covers Units 3&4) | December 12-19 |

**STUDENT RESPONSIBILITIES:** Refer to Northwestern Polytechnic's Policy on *Student Rights and Responsibilities* at https://www.nwpolytech.ca/about/administration/policies/fetch.php?ID=69Students are expected to participate fully in achieving their educational goals. This includes regularly attending and remaining in class, keeping technology use relevant to the class, and engaging intentionally with classroom and lab activities. Students are expected to demonstrate respect for their peers, as well as faculty and staff. Any questions, concerns, or appointment requests for the instructor should be communicated by email or at the beginning/end of class.

If you are late for a lab, you might not be permitted to do the lab as important safety concerns are addressed at the beginning of each lab period. The lab is certified as a Level 2 biohazard facility and the regulations that apply will be given to you during your first lab. If you miss a lab, you will NOT have the opportunity for a make-up lab. You will automatically receive a grade of ZERO for that lab.

*Acceptable Use of AI Policy*

The use of artificial intelligence (AI) tools, such as ChatGPT, is NOT permitted for exams, quizzes, or laboratory/in-class assignments in this course and doing so will be considered academic misconduct. For take-home assignments (i.e., presentations), AI tools may be used to help generate ideas and direct your learning on a given topic. However, students are advised to do their own research and must at least verify the information presented by AI tools. Directly copying answers from AI results is unacceptable and will be considered plagiarism. Students are responsible for ensuring their information is *accurate*, written in their *own words*, and *cited* from a reliable (non-AI) source. Any generative AI tools used must always be cited.

**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.