

## DEPARTMENT OF KINESIOLOGY AND HEALTH SCIENCES

### COURSE OUTLINE – FALL 2025

#### PE1015 (A2/B2): ESSENTIALS OF HUMAN PHYSIOLOGY 3 credit (3-0-0) UT 45 HRs / 15 WKs

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

**INSTRUCTOR:** Fabio Minozzo

**EMAIL:** [fminozzo@nwpolytech.ca](mailto:fminozzo@nwpolytech.ca)

**OFFICE:** K219

**OFFICE HOURS:** Drop in or by appointment.

#### **Classes:**

A2 – Tuesdays and Thursdays – 13:00 – 14:20

B2 – Wednesdays and Fridays – 13:00 – 14:20

**CALENDAR DESCRIPTION:** The main focus of this introductory course is on cellular functions in the human body, with special emphasis on systems that respond and adapt to exercise stress.

**DELIVERY MODE(S):** Various methodologies will be employed, including lectures, discussions, seminars, assigned readings, in-class activities, and group/ individual work.

This course will be primarily delivered **in class** with some online components.

- For the remote delivery component, students **should have** a computer with a webcam and a reliable internet connection. Technological support is available through [helpdesk@nwpolytech.ca](mailto:helpdesk@nwpolytech.ca)
- Students should also bring their laptop or tablet, book, and notebook for the on-site component.

**POLICY ON THE USE OF ARTIFICIAL INTELLIGENCE (AI):** The use of Artificial Intelligence (AI), including Large Language Models (LLMs) and other related technologies, has grown significantly in recent years and is now part of everyday reality. The intent of this policy is not to prohibit their use entirely, but to ensure it is applied appropriately and transparently in accordance with established course guidelines. This policy applies only to this course; other instructors may have different policies, and students should not assume these rules apply elsewhere. When no specific rules are established for a given task, the following defaults will apply: **i. For Assignments, Reports, and Presentations** – AI tools may be used to assist in drafting but may not be used to generate the complete work from a single prompt; AI may be used to refine language, and all prompts must be disclosed. For greater transparency, students may be asked to submit their prompt history and AI outputs as an appendix or additional file. If references are required, students must read and verify them to ensure accuracy and existence; any information generated by AI must be independently verified using credible sources; and students must fully understand the material they submit. The instructor may interview students to assess their understanding, and a demonstrated lack of knowledge will be treated as probable academic misconduct. **ii. For Tests, Exams, and Quizzes** – the use of AI tools, search engines, communication devices, or any feature enabling communication with external entities is strictly prohibited. Once specific rules are set for a task, those rules override these defaults, which will no longer apply. Any breach of the applicable rules will be addressed under the institution's academic misconduct procedures.

***\*Note:** AI-generated content may contain errors or biases. Students are responsible for verifying information and may consult their instructor for guidance on its accuracy, appropriateness, or permitted use.*



**POLICY ON THE RECORDING OF TEACHING ACTIVITIES:** Students may not record classroom activities (such as lectures, group activities, 3<sup>rd</sup> party presentations, etc.) without the instructor's consent. This policy is set to protect students' privacy and reputation, uphold the copyrights of the instructor and other content creators, and facilitate free and open discussion of ideas. The classroom is meant to be a psychologically safe environment where students can explore and think through new and controversial ideas without fear of public repercussions. Recording lectures can undermine this goal. If permission to record an activity is granted, the recorded material can only be used for the student's own private use and is not to be posted online or otherwise distributed. The instructor will notify students in advance when someone has been granted permission to record a classroom activity. Students will also be given the option of being excused from actively participating in recorded activities. In the case of student presentations, the recording student must show proof that the presenting student(s) have agreed to be recorded before the instructor will grant permission.

**POLICY ON INSTRUCTIONAL RESOURCES AND MATERIALS:** Any course resource/material should be properly used: the content created by your instructor is his/her intellectual property and is provided to you based upon your registration for this class; as such, the material is for your private use only. It is not to be distributed, publicly exhibited, or sold without the permission of the instructor. Third-party materials (such as assigned readings, videos, et cetera) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. *\*Note: posting instructional, personal notes or slides before or after classes is at the discretion of your instructor.*

**POLICY ON ATTENDANCE:** Attendance in this course is MANDATORY. Students are strongly recommended to attend all classes and labs; however, they must attend at least 75% of the lectures and labs. This translates to 21 classes. **If a student misses more than 25% of the course (7 classes), he or she will be debarred from writing the final exam.** In exceptional circumstances, the instructor may allow a student to miss more classes than the minimum, but these issues will be addressed case-by-case.

**PREREQUISITE(S)/COREQUISITE:** None

## REQUIRED TEXT/RESOURCE MATERIALS:

Stanfield, Cindy L. (2017). Principles of Human Physiology. 6th Edition, San Francisco: Pearson.

## LEARNING OUTCOMES:

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

- Demonstrate an in-depth understanding of the main principles of the energy systems, cell metabolism, and the neuromuscular system;
- Demonstrate an understanding of human physiological behaviour under normal conditions, as well as, to a certain extent, pathologies and stress induced by exercise;
- Demonstrate the capacity to integrate information from different sources (biology, chemistry, and physics) and effectively communicate this verbally and in writing.

## COURSE SCHEDULE TENTATIVE TIMELINE:

| PE1015 ESSENTIALS OF HUMAN PHYSIOLOGY 2025 SCHEDULE (A2) |                                  |           |                                  | PE1015 ESSENTIALS OF HUMAN PHYSIOLOGY 2025 SCHEDULE (B2) |                                  |           |                                  |
|----------------------------------------------------------|----------------------------------|-----------|----------------------------------|----------------------------------------------------------|----------------------------------|-----------|----------------------------------|
| TUESDAYS                                                 | TOPIC                            | THURSDAYS | TOPIC                            | WEDNESDAYS                                               | TOPIC                            | FRIDAYS   | TOPIC                            |
| 2-Sep-25                                                 | No Classes                       | 4-Sep-25  | Course Presentation              | 3-Sep-25                                                 | Course Presentation              | 5-Sep-25  | Introduction to Physiology (1)   |
| 9-Sep-25                                                 | Introduction to Physiology (1)   | 11-Sep-25 | Cell: Structure and Function (2) | 10-Sep-25                                                | Introduction to Physiology (1)   | 12-Sep-25 | Cell: Structure and Function (2) |
| 16-Sep-25                                                | Cell: Structure and Function (2) | 18-Sep-25 | Cell: Structure and Function (2) | 17-Sep-25                                                | Cell: Structure and Function (2) | 19-Sep-25 | Cell: Structure and Function (2) |
| 23-Sep-25                                                | Cell Metabolism (3)              | 25-Sep-25 | Cell Metabolism (3)              | 24-Sep-25                                                | Cell Metabolism (3)              | 26-Sep-25 | Cell Metabolism (3)              |
| 30-Sep-25                                                | Holiday                          | 2-Oct-25  | Cell Metabolism (3)              | 1-Oct-25                                                 | Review activity                  | 3-Oct-25  | Cell Metabolism (3)              |
| 7-Oct-25                                                 | Cell Metabolism (3)              | 9-Oct-25  | Cell Metabolism (3)              | 8-Oct-25                                                 | Cell Metabolism (3)              | 10-Oct-25 | Cell Metabolism (3)              |
| 14-Oct-25                                                | Endocrine System (6)             | 16-Oct-25 | Endocrine System (6)             | 15-Oct-25                                                | Endocrine System (6)             | 17-Oct-25 | Endocrine System (6)             |
| 21-Oct-25                                                | Review activity                  | 23-Oct-25 | TEST I                           | 22-Oct-25                                                | Review activity                  | 24-Oct-25 | TEST I                           |
| 28-Oct-25                                                | Nervous System (7)               | 30-Oct-25 | Nervous System (8)               | 29-Oct-25                                                | Nervous System (8)               | 31-Oct-25 | Nervous System (8)               |
| 4-Nov-25                                                 | Nervous System (9)               | 6-Nov-25  | Nervous System (9)               | 5-Nov-25                                                 | Nervous System (9)               | 7-Nov-25  | Nervous System (9)               |
| 11-Nov-25                                                | Fall break                       | 13-Nov-25 | Fall break                       | 12-Nov-25                                                | Fall break                       | 14-Nov-25 | Fall break                       |
| 18-Nov-25                                                | Muscle Physiology (12)           | 20-Nov-25 | Muscle Physiology (12)           | 19-Nov-25                                                | Muscle Physiology (12)           | 21-Nov-25 | Muscle Physiology (12)           |
| 25-Nov-25                                                | Muscle Physiology (12)           | 27-Nov-25 | Muscle Physiology (12)           | 26-Nov-25                                                | Muscle Physiology (12)           | 28-Nov-25 | Muscle Physiology (12)           |
| 2-Dec-25                                                 | Review activity                  | 4-Dec-25  | TEST II                          | 3-Dec-25                                                 | Review activity                  | 5-Dec-25  | TEST II                          |
| 9-Dec-25                                                 | Review activity                  | 11-Dec-25 | No classes                       | 10-Dec-25                                                | Review activity                  | 12-Dec-25 | No classes                       |
| 16-Dec-25                                                | EXAM PERIOD                      | 18-Dec-25 | EXAM PERIOD                      | 17-Dec-25                                                | EXAM PERIOD                      | 19-Dec-25 | EXAM PERIOD                      |

*\* Note: Required readings (e.g., Ch4, Ch5) will be assigned throughout the courses; those are COMPULSORY and for grades.*

*\*\*Note: All assignments related to the readings will be due on the Monday after the reading week (November 19, 2024)*

*\*\*\*Note: Some of these dates may vary to facilitate student learning*

## EVALUATIONS:

|             |                                 |
|-------------|---------------------------------|
| 10%         | Review activities               |
| 10%         | Assigned readings and questions |
| 20%         | TEST I                          |
| 25%         | TEST II                         |
| 35%         | FINAL EXAM                      |
| <b>100%</b> | <b>Total</b>                    |

## GRADING CRITERIA

| 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                 |

**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>.

*\*Note 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.*

**STUDENT RESPONSIBILITIES:** Refer to the Polytechnic Policy on Student Rights and Responsibilities on the NWP website.

**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.*