KINESIOLOGY AND HEALTH SCIENCES

COURSE OUTLINE – Fall 2024

PE2000 (A2): Exercise Physiology – 3 (3-0-2) UT 75 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: Brye McMorran
OFFICE: TBD
OFFICE HOURS: Upon student request
PHONE: TBD
E-MAIL: bmcmorran@nwpolytech.ca

CALENDAR DESCRIPTION: The lecture, laboratory experience and supplementary readings are designed to promote an understanding of the physiological responses to acute and chronic exercise. Successful completion of the course requirements will enable one to understand the basic function of various physiological systems; describe the various physiological changes that occur during acute exercise and the various adaptations to different forms of exercise training and environmental influence; understand the basic ergometry and other laboratory instrumentation for evaluating physiological responses to exercise; and experience exercise stress in a laboratory setting as a participant and tester.

PREREQUISITE(S)/COREQUISITE:

PE1015 – Essentials of Human Physiology

REQUIRED TEXT/RESOURCE MATERIALS:

McArdle, W.D., Katch, F.T., and Katch, V.L. (2016). Essentials of Exercise Physiology. 5th edition. Philadelphia: Wolters Klewer.

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DELIVERY MODE(S):

This course will be delivered via in-person classes and labs with the possibility of online components.

LEARNING OUTCOMES:

After successful completion of this course, students should be able to:

1. Integrate their knowledge on human physiology to exercise physiology
2. Identify common training methods in relation to the three major energy systems and how they apply to exercise physiology
3. Explain a few of the most common types and protocols of exercise training and the adaptations induced by these
4. Name, describe, and implement a variety of physiological tests that may be used on humans of various abilities
5. Understand research and being able to execute the common exercise tests and assessments
6. Analyze research and apply the appropriate concepts to class sessions

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:

Assessment	% of final
Lab	5%
Lab Report I	10%
Lab Report II	10%
Lab Test I	10%
Lab Test II	10%
Midterm	25%
Final Exam	30%

**Of the 3 lab reports identified below in the "Laboratory Schedule" table, the 2 reports achieving the highest mark will contribute to your final grade.*

**Note: 45% of your final grade will be based on the lab component (attendance is mandatory). The remaining 55% will be based on entire course content, in which labs are included.*

**Note the dates of these assessments are in the lecture and lab schedule below*

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:

IN-CLASS LECTURE SCHEDULE				
Week	**Monday**	**Topic**	**Wednesday**	**Topic**
1	2-Sep-2024	No Classes	4-Sep-2024	Intro to the course
2	9-Sep-2024	Intro to Exercise Physiology	11-Sep-2024	Macro and Micronutrients
3	16-Sep-2024	Food and Energy	18-Sep-2024	Intro to Energy Transfer
4	23-Sep-2024	Human Energy Transfer	25-Sep-2024	Measuring and Evaluating
5	30-Sep-2024	**TRUTH AND RECONCILIATION DAY (NO CLASS)**	2-Oct-2024	Energy Expenditure
6	7-Oct-2024	Review	9-Oct-2024	**MIDTERM**
7	14-Oct-2024	**THANKSGIVING (NO CLASS)**	16-Oct-2024	Review
8	21-Oct-2024	**LAB TEST I**	23-Oct-2024	Respiratory System
9	28-Oct-2024	Cardiovascular System	30-Oct-2024	Neuromuscular System

10	4-Nov-2024	Hormonal Response	6-Nov-2024	Endurance Training
11	11-Nov-2024	**REMEMBERANCE DAY**	13-Nov-2024	**FALL BREAK**
12	18-Nov-2024	Resistance Training	20-Nov-2024	Resistance Training
13	25-Nov-2024	Exercise and Aging	27-Nov-2024	Exercise in different conditions
14	2-Dec-2024	Review	4-Dec-2024	**LAB TEST II**
15	9-Dec-2024	Review	11-Dec-2024	**EXAM PERIOD**

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

*Readings will to be posted

LABORATORY SCHEDULE			
Week	**L1 (Friday)**	**L2 (Tuesday)**	**Topic**
1	6-Sep-2024	3-Sep-2024	No Labs
2	13-Sep-2024	10-Sep-2024	Basic Ergometry
3	20-Sep-2024	17-Sep-2024	Anaerobic Tests
4	27-Sep-2024	24-Sep-2024	**Wingate (Lab Report)**
5	4-Oct-2024	1-Oct-2024	Intermittent vs. Continuous
6	11-Oct-2024	8-Oct-2024	Response to Submax PO
7	18-Oct-2024	15-Oct-2024	**Force-Velocity (Lab-Report)** Wingate Lab Report Due
8	25-Oct-2024	22-Oct-2024	Energy Expenditure and Efficiency
9	1-Nov-2024	29-Oct-2024	CPET and Threshold
10	8-Nov-2024	5-Nov-2024	**CPET and Threshold (Lab Report)** Force-Velocity Lab Report Due
11	15-Nov-2024	12-Nov-2024	**FALL BREAK**
12	22-Nov-2024	19-Nov-2024	Critical Power
13	29-Nov-2024	26-Nov-2024	Lab content review CPET and Threshold Lab Report Due
14	6-Dec-2024	3-Dec-2024	No Labs
15	13-Dec-2024	10-Dec-2024	No Labs

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

STUDENT RESPONSIBILITIES:

Refer to Northwestern Polytechnic policy on the Student Rights and Responsibilities on the NWP website.

All assignments are expected to be submitted on the due date. Late assignments will be deducted 10% per day up to 5 days late. After 5 days late, assignments will not be accepted and receive a grade of 0. Each day will consist of the 24-hour

period following the due date, including weekdays and weekends. Valid reasons for submission of late assignments as well as absence from labs, tests, midterm exam need to be communicated to the instructor as soon as possible and are limited to:

- Medical emergencies (physician note may be required)
- Death in the immediate family (death certificate may be required)
- Other significant occurrences (some form of documentation may be required)

It is the student's responsibility to acquire any materials and content missed due to absence.
Lectures/Slides will be provided to students in a format of the instructors choosing. You may not always receive complete slides or there may be alterations to the ones posted. It is the student's job to ensure they are taking appropriate notes.

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.