

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 discretion of your instructor.*

PREREQUISITE: PE1030

REQUIRED TEXT/RESOURCE MATERIALS:

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

ANXILIARY MATERIALS:

- 1- George A Brooks, Kenneth M Baldwin, Thomas D. Fahey (2004). Exercise Physiology: Human Bioenergetics and Its Applications. McGraw-Hill Education
- 2- PW. Larry Kenney, Jack Wilmore, David Costill. Physiology of Sport and Exercise (2015) – Human Kinetics 6th Edition
- 3- Scott Powers and Edward Howley Exercise Physiology: Theory and Application to Fitness and Performance (2009) – 7th Edition – Mc Graw Hill Education.
- 4- ACSM's guidelines for exercise testing and prescription (2017): Wolters Kluwer/Lippincott Williams & Wilkins Health, 10th edition.
- 5- Garber CE, Blissmer B, Deschenes MR, Franklin BA, Lamonte MJ, Lee IM, Nieman DC, Swain DP (2011). American College of Sports Medicine position stand: Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: guidance for prescribing exercise. Med Sci Sports Exerc. 43(7):1334-59.

COURSE OBJECTIVES:

- To provide the student with a knowledge and understanding of the concepts of various physiological systems at rest and in response to acute and chronic exercise;
- To provide the student with the basic knowledge and understanding of a few of the most common physiological adaptations to different forms of exercise training and under different environmental conditions;
- To develop skills in basic types of assessments (i.e., CPET, Wingate, etc.) in the field of exercise physiology.

LEARNING OUTCOMES:

Students who successfully complete this course should be able to:

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

COURSE SCHEDULE TENTATIVE TIMELINE:

PE2000 EXERCISE PHYSIOLOGY WINTER 2023 SCHEDULE							
IN CLASS LECTURES				LABORATORY			
Mondays	TOPIC	Wednesdays	TOPIC	L1 (Fri)	L2 (Wed)	L3 (Thu)	TOPIC
2-Jan-23	No Classes	4-Jan-23	Intro to the course	6-Jan-23	4-Jan-23	5-Jan-23	No Labs
9-Jan-23	Intro to Exercise Physiology (Ch01)	11-Jan-23	Macro and Micronutrients (Ch02)	13-Jan-23	11-Jan-23	12-Jan-23	Basic Ergometry
16-Jan-23	Food and Energy (Ch03)	18-Jan-23	Intro to Energy Transfer (Ch05)	20-Jan-23	18-Jan-23	19-Jan-23	Anaerobic Tests
23-Jan-23	Human Energy Transfer (Ch06)	25-Jan-23	Measuring and Evaluating (Ch07)	27-Jan-23	25-Jan-23	26-Jan-23	Wingate (Lab Report)
30-Jan-23	Lecture on how to write a lab report	1-Feb-23	Energy Expenditure (Ch08)	3-Feb-23	1-Feb-23	2-Feb-23	Intermittent vs Continuous
6-Feb-23	Respiratory System (Ch09)	8-Feb-23	Cardiovascular System (Ch 10)	10-Feb-23	8-Feb-23	9-Feb-23	Response to Submax PO
13-Feb-23	Review / Seminar	15-Feb-23	MIDTERM EXAM	17-Feb-23	15-Feb-23	16-Feb-23	Force-Velocity (Lab Report)
20-Feb-23	Winter Break	22-Feb-23	Winter Break	24-Feb-23	22-Feb-23	23-Feb-23	Winter Break
27-Feb-23	Review / Seminar	1-Mar-23	LAB EXAM I	3-Mar-23	1-Mar-23	2-Mar-23	Energy Exp and Efficiency
6-Mar-23	Neuromuscular System (Ch11)	8-Mar-23	Hormonal Response (Ch12)	10-Mar-23	8-Mar-23	9-Mar-23	CPET and Threshold
13-Mar-23	Endurance Training (Ch13)	15-Mar-23	Endurance Training (Ch13)	17-Mar-23	15-Mar-23	16-Mar-23	CPET and Threshold (Lab report)
20-Mar-23	Resistance Training (Ch14)	22-Mar-23	Resistance Training (Ch14)	24-Mar-23	22-Mar-23	23-Mar-23	Critical Power
27-Mar-23	Exercise and Aging (Ch17)	29-Mar-23	Exercise in Diff conditions (Ch15)	31-Mar-23	29-Mar-23	30-Mar-23	Lab content review
3-Apr-23	Review / Seminar	5-Apr-23	LAB EXAM II	7-Apr-23	5-Apr-23	6-Apr-23	No Labs
10-Apr-23	General Review	12-Apr-23	General Review	14-Apr-23	12-Apr-23	13-Apr-23	EXAM PERIOD
17-Apr-23	EXAM PERIOD	19-Apr-23	EXAM PERIOD	21-Apr-23	19-Apr-23	20-Apr-23	EXAM PERIOD

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

EVALUATION:

Lab Participation	5%	45%
Lab Reports	10%	
Lab Exam I	15%	
Lab Exam II	15%	
Midterm Exam	25%	55%
Final Exam	30%	
100%		100%

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

GRADING CRITERIA: (The following criteria may be changed to suite the course/instructor)

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	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

STUDENT RESPONSIBILITIES:

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

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Rights and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>

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

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>.

**** 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**