



ORIGINAL COURSE IMPLEMENTATION DATE: Spring 1992
 REVISED COURSE IMPLEMENTATION DATE: September 2018
 COURSE TO BE REVIEWED: (six years after UEC approval) March 2024
 Course outline form version: 09/15/14

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: KIN 163		Number of Credits: 4 Course credit policy (105)																	
Course Full Title: Introduction to Exercise Physiology																			
Course Short Title (if title exceeds 30 characters): Intro to Exercise Physiology																			
Faculty: Faculty of Health Sciences		Department (or program if no department): Kinesiology																	
Calendar Description: Students acquire applied knowledge of the physiological, anatomical, and mechanical aspects of human movement as they relate to health and performance. Note: Students with credit for KPE 163 cannot take this course for further credit.																			
Prerequisites (or NONE):		None.																	
Corequisites (if applicable, or NONE):		None																	
Pre/corequisites (if applicable, or NONE):		None																	
Equivalent Courses (cannot be taken for additional credit) Former course code/number: KPE 163 Cross-listed with: Equivalent course(s): KPE 163 <i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>		Transfer Credit Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Transfer credit requested (OReg to submit to BCCAT): <input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form) Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input type="checkbox"/> No To find out how this course transfers, see bctransferguide.ca .																	
Total Hours: 75 Typical structure of instructional hours: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td style="text-align: center;">45</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td style="text-align: center;">30</td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;">Total</td><td style="text-align: center;">75</td></tr> </table>		Lecture hours	45	Seminars/tutorials/workshops		Laboratory hours	30	Field experience hours		Experiential (practicum, internship, etc.)		Online learning activities		Other contact hours:		Total	75	Special Topics Will the course be offered with different topics? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit <i>Note: The specific topic will be recorded when offered.</i>	
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Seminars/tutorials/workshops																			
Laboratory hours	30																		
Field experience hours																			
Experiential (practicum, internship, etc.)																			
Online learning activities																			
Other contact hours:																			
Total	75																		
		Maximum enrolment (for information only): 36																	
		Expected frequency of course offerings (every semester, annually, every other year, etc.): three times annually																	
Department / Program Head or Director: Alastair Hodges		Date approved: May 2017																	
Faculty Council approval		Date approved: May 2017																	
Campus-Wide Consultation (CWC)		Date of posting: October 20, 2017																	
Dean/Associate VP: Joanne MacLean		Date approved: May 2017																	
Undergraduate Education Committee (UEC) approval		Date of meeting: March 23, 2018																	

Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Describe and define the role of exercise physiology as a basis for understanding and improving human athletic performance and health.
2. Explain the acute responses of athletic activity with respect to structure, function, human movement, energy production, and organ systems.
3. Describe the chronic adaptations to the physiological, anatomical, and mechanical aspects of human movement that result from exercise and physical activity.
4. Explain how acute responses and chronic adaptations relate to improvements in health and athletic performance.
5. Determine fitness levels in a practical setting.

Prior Learning Assessment and Recognition (PLAR)

Yes No, PLAR cannot be awarded for this course because

Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)

Lecture, Demonstration, Small group practice, Discussion, Audiovisual presentation, Use of models and charts.

Grading system: Letter Grades: Credit/No Credit: Labs to be scheduled independent of lecture hours: Yes No

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1. Kraemer, Fleck, and Deschenes	Exercise Physiology (2 nd ed.)	<input checked="" type="checkbox"/>	Wolters Kluwer	2016
2.	KIN 163 Laboratory Manual	<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		

Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**Typical Evaluation Methods and Weighting**

Final exam:	20%	Assignments:	%	Midterm exam:	30%	Practicum:	%
Quizzes/tests:	10%	Lab work: Lab reports	40%	Field experience:	%	Shop work:	%
Other:	%	Other:	%	Other:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

1. Introduction
 - 1.1. Scientific method
 - 1.2. Origins of knowledge
 - 1.3. Application of research to health and performance
2. Skeletal muscle function
 - 2.1. Basic structure and cellular function of muscle
 - 2.2. Interaction of microfilaments
 - 2.3. Muscle fibre types
 - 2.4. Sliding filament theory
 - 2.5. Proprioception
3. Bioenergetics and ATP production
 - 3.1. Anaerobic metabolism
 - 3.1.1. Alactic energy sources
 - 3.1.2. Glycolysis and lactic energy sources
 - 3.1.3. Aerobic respiration and oxidative phosphorylation
 - 3.1.4. Interaction of energy systems
 - 3.1.5. Adaptation of energy systems to exercise training

4. Control systems
 - 4.1. Endocrine system
 - 4.1.1. Major endocrine glands and hormone functions
 - 4.1.2. Responses of hormones to exercise
 - 4.2. Nervous system
 - 4.2.1. Basic structure and function of the nervous system
 - 4.2.2. Divisions of the nervous system
 - 4.2.3. Nervous control of human movement
5. Cardiovascular system
 - 5.1. Basic structure and function of the heart and vasculature
 - 5.2. Cardiac volumes at rest and during exercise
 - 5.3. Control of cardiac function
 - 5.4. Cardiovascular responses to exercise training
6. Respiratory system
 - 6.1. Basic structure and function of the lungs and airways
 - 6.2. Mechanics of ventilation
 - 6.3. Gas exchange and blood gases
 - 6.4. Respiratory responses to exercise training
7. Body composition
 - 7.1. Definitions measurements of body composition
 - 7.2. Effects of exercise on body composition
 - 7.3. Body composition and health, obesity
8. Training and performance
 - 8.1. Aerobic training and effects on performance
 - 8.2. Anaerobic training and effects on performance
 - 8.3. Strength training
 - 8.4. Periodization