



Kinesiology KIN 235 Section 921
(Formerly KIN 275)
Summer 2023

Instructor: Viviana Shiffman
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Class: Tuesday & Thursday 5-8pm

TA: Owen Payne
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Acknowledgment

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓_əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

Introduction:

This course will provide an introduction to how the muscular, ventilatory and cardiovascular systems respond to acute and chronic exercise. The goal of the course will be to link together different learning modules so that you gain an understand of how the human body respond to acute exercise and how we adapt to exercise training.

Prerequisites:

Bachelor of Kinesiology, second year standing.

Resources

- Lecture and Lab Material – All will be available to you on Canvas
- Recommended Text: McArdle, Katch & Katch. Exercise Physiology: Nutrition, Energy, and Human Performance. 8th Edition, 2015.

Format of the Course

Tuesdays (5-8pm)

- 45-50 minute of live, lectures (Separated by 10-15 minute breaks)

Thursdays (5-8pm)

- Lab materials will be posted prior to lab. It is your responsibility to read all procedures before the start of class.

Evaluation of the Course

- **Labs:** 20% (5% for each lab). Completed individually – Submissions will require you to analyze your collected data and answer discussion questions. In order to be eligible to submit labs you must attend the lab.
- **Midterm:** 30% The Midterm will cover the first three modules and first two labs.
 - If you are unable to attend the midterm for a legitimate reason, the weight from the midterm will be added to the final exam. Please see Kinesiology in-term academic concession policy: <https://kin.educ.ubc.ca/undergraduate/bkin/academic-concession/>
 - There will be no makeup midterms.
- **Workbook and class attendance:** 5% The workbook will be completed throughout class time.
- **Final Exam:** 45% Content from throughout the whole course, guest lecture and labs will be on the final.



Course Overview:

Module 1: Introduction and Energy transfer

Module 2: Metabolism

Module 3: Ventilation

Module 4: Cardiovascular Regulation

Module 5: Muscle Function

Module 6: Exercise training

Course content schedule

Dates of Class		Tuesdays	Thursdays
Introduction and Energy Transfer May 16	5:00pm	Course Introduction and energy transfer	Lab 1: Calculating O ₂ consumption <i>Group A: 5-630pm</i> <i>Group B: 630-8pm</i>
	6:00pm	Energy transfer in the human body	
	7:00pm	Measurements of Energy expenditure	
Metabolism May 23	5:00pm	Guest lecture & metabolism during exercise	Lab 2: Wingate <i>Group B: 5-630pm</i> <i>Group A: 630-8pm</i>
	6:00pm	Energy systems and transfer	
	7:00pm	Energy and metabolism review	
Ventilation May 30	5:00pm	Pulmonary Structure and Function & Gas Exchange and Transport	Lab 3: Pulmonary function <i>Group A: 5-630pm</i> <i>Group B: 630-8pm</i>
	6:00pm	Dynamics of Pulmonary Ventilation	
	7:00pm	Acute and chronic effects of cannabis and vaping on lung function	
Cardiovascular Regulation June 6	5:00pm	Review Session	MIDTERM
	6:00pm	Functional capacity of cardiovascular system	
	7:00pm	Cardiovascular regulation and integration	
Muscle Function June 13	5:00pm	Muscle function	Lab 4: VO ₂ max and thresholds <i>Group B: 5-630pm</i> <i>Group A: 630-8pm</i>
	6:00pm	Neural control of human movement	
	7:00pm	Skeletal muscle fatigue	
Exercise Training June 20	5:00pm	TBD	Review session
	6:00pm	Adaptations to resistance exercise	
	7:00pm	Adaptations to aerobic exercise	



University Policies

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on the UBC Senate website: <https://senate.ubc.ca/policies-resources-support-student-success/>

Course Policies

Please make sure you are familiar with the academic policies and procedures.

Academic Integrity

Students are expected to follow UBC policies for academic integrity and academic misconduct, which includes practices around plagiarism, referencing and citation, and copyright. For more see, UBC's Learning Commons Academic Integrity resources: <https://learningcommons.ubc.ca/academic-integrity/>

Accessibility

If you have any challenges accessing materials that will impact your success in this course, UBC's Centre for Accessibility can support your needs by providing appropriate accommodations to support you.

- Web: UBC's Centre for Accessibility website: <https://students.ubc.ca/about-student-services/centre-for-accessibility>
- Email: accessibility@ubc.ca

Learning Analytics

Some of the learning technologies used for this course collect data to support the improvement of teaching and learning. This includes the collection of data related to overall class progress to provide personalized feedback, engagement in discussion forums to support the fostering of community within the course, and how resources are being accessed to support improvements to the course design. To learn more about learning analytics at the Faculty of Education and at UBC, see the What is Learning Analytics? (<https://ets.educ.ubc.ca/learning-analytics/students/>)