THE UNIVERSITY OF BRITISH COLUMBIA

Land Acknowledgement

We respectfully acknowledge the Syilx Okanagan Nation and their peoples, in whose traditional, ancestral, unceded territory UBC Okanagan is situated.

HES 354: Clinical Exercise Physiology Applications in Chronic Conditions: Cardiovascular Disease

Faculty: Faculty of Health and Social Development
Department: Health and Exercise Sciences
Instructor(s): Shawna Cook (she/her)
Primary contact method: Canvas Message
Instructor(s) Email: shawna.cook@ubc.ca
Duration: Term 2 Winter 2026
Delivery Modality: In-Person
Course Location: UCH 109
Course Days: Tuesday & Thursday
Class Hours: 8:00 am – 9:20 am
Office hours: Wednesdays 11:00 – 12:00pm
Office hours are meant for you to come and chat about course content, assignments, or anything I can help you with. I am here to help as much as I can. If you are unavailable during scheduled office hours, please contact me, and we can arrange another time.

Course Description
The clinical considerations of cardiovascular conditions and treatment for safe and effective implementation of exercise programs for people with cardiovascular disease. Students will critically review evidence, standards and recommendations for use of exercise in the management and prevention of cardiovascular disease.

Course Format
The course uses primarily a lecture-based format to achieve the learning objectives, in conjunction with lab style practice, case-study assignments, group-based discussion, in-class writing and presentation activities.

Course Overview, Content and Objectives
This course will explore the structures, functions, regulation and adaptation of the cardiovascular system in health, performance and chronic disease. The physiologic responses and adaptations of the cardiovascular system to exercise training and disease states will be investigated. Furthermore, the etiology, diagnosis and clinical care of individuals with cardiovascular disease will be explored as

well as the evidence and application of training prescriptions, pharmacologic management and rehabilitation programs in the prevention, management and treatment of cardiovascular disease. The learning objectives are to:

- Advance student understanding of the physiology of the cardiovascular system and the effects of exercise on this system.
- Introduce students to the pathophysiology and etiology of cardiovascular disease, the diagnostic, medical management and clinical care of individuals with cardiovascular disease and the role of the exercise physiologist in the integrative health team.
- Support students in learning how the current guidelines, recommendations and evidence for exercise prescription in individuals with cardiovascular disease may be applied to improve the health and wellbeing of this population.

Learning Outcomes

By the end of this course successful students will be able to:

1. Describe key characteristics of cardiovascular diseases (e.g., ACS, CHF, CAD, PAD, Hypertension, Arrhythmias), including etiology, prevalence, pathophysiological basis, common symptoms, comorbidities, and disease progression.
2. Demonstrate understanding of common disease-specific diagnostic tests, treatments and interventions, functional limitations, contraindications to exercise and patient care plans in this population and how each of these affect exercise prescription in this population.
3. Develop safe and effective clinical exercise assessment strategies, and evaluate, analyze and communicate relevant test results for key stakeholders.
4. Design a safe and effective exercise prescription, based on relevant assessments results, and describe an appropriate implementation of this prescription in individuals with, or at risk of cardiovascular disease, including consideration of risks, equipment, environmental needs, emergency management and effective monitoring strategies.
5. Examine current standards, guidelines and the role of the clinical exercise physiologist within the integrated care team of this patient population and critically appraise health and exercise research in cardiovascular disease.

Assessments of Learning

Assessment	Date	% of grade	Learning outcome(s)
Midterms x 2	Feb.12th, March 27th	40%	LO1, LO2, LO3, LO4, LO5
Article Rounds	Jan. 23rd, Feb. 25th, March. 18th	30%	LO1, LO2, LO3, LO4, LO5
Final Project Presentation	April 2nd, 7th, 9th	30%	LO1, LO2, LO3, LO4, LO5

Course Assessment Details

Midterms (40%)

Two midterms will assess your comprehension of the material covered within lecture. Midterm 1 will assess modules 1 and 2, whereas midterm 2 will assess modules 3, 4 and 5. **There is no final exam in this course.**

Final Project Presentations (30%)

You will be assigned a case study/article and provided with some guiding questions. You will have to apply the knowledge that you have learned throughout the entirety of the course to complete a full detailed case report that will include sections encompassing each of the course's learning outcomes. This report will be combined with an oral presentation and Q&A on your case/article. **This final project will serve as a replacement for your final exam**.

Article Rounds x 3 (30%)

This is a peer-to-peer collaboration activity designed to enhance the student's knowledge by learning and gaining insights from each other. Students will be provided with a clinical article along with some guiding questions to critically analyze the article, apply focused learning concepts while creating a concise report. They will briefly present their report to a group of class peers and engage in an open discussion with the goal of sharing knowledge and gaining insights. Students will then complete a reflective component to the assignment to integrate what they have learned.

Course Schedule

This course schedule serves as an outline only. Daily topics will be amended as the term progresses based on the needs of the class.

Week	Lecture Topic
Week 1: Jan 6th & 8th	Course Overview & Intro to Module 1 – ACS - Patho
Week 2: Jan. 13th & 15th	Module 1: ACS - Testing
Week 3: Jan. 20th & 22nd	Module 1: ACS – ECG & Sternal Precautions
Week 4: Jan. 27th & 29th	Module 1: ACS - Risk Factors & Nutrition
Week 5: Feb. 3rd & 5th	Module 2: Stroke & PVD (Patho & TX)

Week 6: Feb. 10th & 12th	Review Class & Midterm 1
Week 7: Feb. 17th & 19th	Reading week
Week 8: Feb. 24th & 26th	Module 3: HF (Patho) Article Rounds #2
Week 9: March. 3rd & 5th	Module 3: HF (Testing & ECG)
Week 10: March. 10th & 12th	Module 4: Valves
Week 11: March. 17th & 19th	Module 5: Electrical
Week 12: March. 24th & 26th	Module 5: Pacemakers, CRT's & ICD's
Week 13: March. 31st & April 2nd	Midterm 2 & Final Project Prep
Week 14: April 7th - 9th	Final Project Presentations

Late policy:
Flexible late policy - each student receives a bank of 72 hours that can be used for assignments. Reminder this is 72 hours total, not per activity. Once the 72 hours are used up the standard late policy applies: 10% per day for a maximum of 3 days after which the grade will be zero.

Missed exam policy:
There will be no make-up for missed exams. This includes both midterms. Please submit a self-declaration form to the undergraduate coordinator for accommodation. Once approved a make-up will be scheduled.

Missed Activity Policy:
There will be no make–up provided for missed article rounds.

Passing/Grading Criteria:
A minimum grade of 50% is required to pass the course. A result of less than 50% will result in an F grade.

Required Readings

- Ehrman et al. (2019). Clinical Exercise Physiology. 4th Ed. [earlier editions accepted]. Human Kinetics Publishing, Champaign, IL.
- Liguori, G., Feito, Y., Fountaine, C., & Roy, B. (2022). ACSM's Guidelines for Exercise Testing and Prescription. (11th Ed). Wolters Kluwer.
- Other Required Resources will be provided through the term.

Recommended Readings

- Peer-reviewed journal articles will be presented throughout course to reflect the topics covered
- Readings will be provided during the term, as supplemental resources for learning
- Swain, D.P., Brawner, C.A., et al. (2014). ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription. (7th Ed). Wolters Kluwer.

Other Course Policies

UBC Values

UBC creates an exceptional learning environment that fosters global citizenship, advances a civil and sustainable society, and supports outstanding research to serve the people of British Columbia, Canada, and the world. UBC's core values are excellence, integrity, respect, academic freedom, and accountability.

Policies and Regulations

Visit UBC Okanagan's Academic Calendar for a list of campus-wide regulations and policies, as well as term dates and deadlines.

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. **For example, incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course**. Careful records are kept to monitor and prevent recidivism.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at:
http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,54,111,0

Final Examinations

You can find the Senate-approved term and examination dates here. Except in the case of examination clashes and hardships (three or more formal examinations scheduled within a 27-hour period) or unforeseen events, students will be permitted to apply for out-of-time final examinations only if they are representing the University, the province, or the country in a competition or performance; serving in

the Canadian military; observing a religious rite; working to support themselves or their family; or caring for a family member. Unforeseen events include (but may not be limited to) the following: ill health or other personal challenges that arise during a term and changes in the requirements of an ongoing job.

Further information on Academic Concession can be found under Policies and Regulation in the Okanagan Academic Calendar http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,48,0,0

Grading Practices

Faculties, departments, and schools reserve the right to scale grades in order to maintain equity among sections and conformity to University, faculty, department, or school norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty, department, or school. Grades are not official until they appear on a student's academic record.

http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,41,90,1014

Resources to Support Student Success:

UBC Okanagan Disability Resource Centre

The DRC facilitates disability-related accommodations and programming initiatives to remove barriers for students with disabilities and ongoing medical conditions. If you require academic accommodations to achieve the objectives of a course please contact the DRC at:

UNC 215 250.807.8053

Email: drc.questions@ubc.ca

Web: www.students.ok.ubc.ca/drc

UBC Okanagan Equity and Inclusion Office

Through leadership, vision, and collaborative action, the Equity & Inclusion Office (EIO) develops action strategies in support of efforts to embed equity and inclusion in the daily operations across the campus. The EIO provides education and training from cultivating respectful, inclusive spaces and communities to understanding unconscious/implicit bias and its operation within in campus environments. UBC Policy 3 prohibits discrimination and harassment on the basis of BC's Human Rights Code. If you require assistance related to an issue of equity, educational programs, discrimination or harassment please contact the EIO.

UNC 325H 250.807.9291

Email: equity.ubco@ubc.ca

Web: www.equity.ok.ubc.ca

Student Wellness

At UBC Okanagan health services to students are provided by Student Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require assistance with your health, please contact Student Wellness for more information or to book an appointment.

UNC 337 250.807.9270

Email: healthwellness.okanagan@ubc.ca

Web: www.students.ok.ubc.ca/health-wellness

Office of the Ombudperson

The Office of the Ombudsperson for Students is an independent, confidential and impartial resource to ensure students are treated fairly. The Ombuds Office helps students navigate campus-related fairness concerns. They work with UBC community members individually and at the systemic level to ensure students are treated fairly and can learn, work and live in a fair, equitable and respectful environment. Ombuds helps students gain clarity on UBC policies and procedures, explore options, identify next steps, recommend resources, plan strategies and receive objective feedback to promote constructive problem solving. If you require assistance, please feel free to reach out for more information or to arrange an appointment.

UNC 328 250.807.9818
Email: ombuds.office.ok@ubc.ca

Web: www.ombudsoffice.ubc.ca

Student Learning Hub

The Student Learning Hub is your go-to resource for free math, science, writing, and language learning support. The Hub welcomes undergraduate students from all disciplines and year levels to access a range of supports that include **tutoring in math, sciences, languages, and writing, as well as help with study skills and learning strategies**. Students are encouraged to visit often and early to build the skills, strategies and behaviors that are essential to being a confident and independent learner. For more information, please visit the Hub's website.

LIB 237 250.807.8491
Email: learning.hub@ubc.ca

Web: www.students.ok.ubc.ca/slh

The Global Engagement Office

The Global Engagement Office provides advising and resources to assist International students in navigating immigration, health insurance, and settlement matters, as well as opportunities for intercultural learning, and resources for Go Global experiences available to all UBC Okanagan students, and more.

Come and see us – we are here to help! You may also contact geo.ubco@ubc.ca

Walk-In Well-Being Clinic

The Walk-In Well-Being clinic offers no-fee, brief, single-session psychological services. Sessions are led by a doctoral student in clinical psychology and supervised by a registered psychologist (UBCO Faculty member). Clinicians can provide support with stress management, sleep, self-care, depression, anxiety, interpersonal issues, substance misuse, coping with academic demands/stressors, and provide options for connecting to additional resources. Virtual or in-person sessions are available at the UBCO Psychology Clinic, located in ASC 167 with or without an appointment, on Tuesdays and Thursdays between 10 am and 3 pm from September to June, excluding campus closures.

UNC 337 250.807.8421 (ext. 1)

Email: ipc.ok@ubc.ca
Web: https://psych.ok.ubc.ca/psychology-clinic/walk-in-wellness/

Student Supports, Resources & Campus Services

Visit the Student Support and Resources page to find one-on-one help or explore resources to support your experience at UBC Okanagan, as well as many other campus services available to all students.

Advising Options

Visit the Advising Options page to find out about the variety of advising options available to students including but not limited to academic, career and accessibility.

Safewalk

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call Safewalk at ***250-807-8076.***

For more information, see: www.security.ok.ubc.ca