THE UNIVERSITY OF BRITISH COLUMBIA

School of Health and Exercise Sciences

HES 351 - Clinical Exercise Physiology - Winter Term 1, 2026

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

Instructor: Neil Eves *(he/him/his)* **Contact:** via Canvas Message
Office: RHS 121 **Email:** neil.eves@ubc.ca
Department: School of Health and Exercise Sciences

Office Hours:

During tutorial time Monday: 8:00am-10:00am, or by appointment.

Academic Calendar Entry

Integrative approach to normal and abnormal responses to exercise as well as the physiological effects of chronic conditions and their clinical management in exercise physiology. [3-0-2]. 3 Credits

Prerequisite: HES 250, HES 311. Registration limited to students in the Clinical Exercise Physiology concentration of the B.H.E.S program.

Class Times

- *LECTURE*: Tuesdays & Thursdays: 3:30pm – 5:00pm (*ART 203*)
- *READING/DISCUSSION/TUTORIAL*: Mondays 8:00pm – 10:00pm (*UCH 109*)

Course Format

The course uses lectures and discussion (tutorials) to achieve the learning objectives. Lectures will focus on identifying and understanding the normal and abnormal responses to exercise and discerning the physiological bases for each of these scenarios. Tutorial sessions will utilize case studies and clinical reviews to highlight key components in the mechanisms, management and influences on health, symptoms and functional capacity for different disorders and chronic conditions.

Course Delivery

This course will be delivered in-person for both lectures and tutorials. Any remote lectures will be hosted via Zoom (accessed by the link on the Course Canvas site) and will begin at the scheduled class times. Lecture sessions may be recorded and uploaded to the course website, however do not depend solely on these for learning. If an asynchronous lesson delivery is used, a pre-recorded lesson or linked video will be posted prior to the scheduled class and students may access that lesson at their preferred time, prior to subsequent lessons. Tutorials will not be recorded.

Required Readings and Videos

- Thompson, W.R. & Ozemek, C. (2025) ACSM's Clinical Exercise Physiology: 2nd Ed. Wolters Kluwer, Philadelphia, USA ***[This textbook is freely accessible to UBC Okanagan Students via the Library for this term]*** https://exercisescience-lwwhealthlibrary-com.ezproxy.library.ubc.ca/book.aspx?bookid=3311
- Other Required Resources will be provided through the term.

Course Overview, Content, and Objectives

The course is designed to advance students' understanding of exercise physiology and pathophysiology, with an emphasis on applying these principles to the biological and psychological effects of chronic conditions. Students will be introduced to underlying mechanisms, common signs and symptoms as well as disease management strategies for many key chronic conditions and will integrate this understanding into the applications of exercise and the effects of disease and treatments on exercise capacity. The learning objectives are to:

- Facilitate learning of advanced and integrative approach to exercise physiology, including a framework for understanding how disease pathology may influence health and physiological responses to exercise.
- Assist students in their understanding of basic pharmacologic principles and common medications for several chronic conditions and how treatments may influence exercise capacity.
- Introduce students to current guidelines and recommendations for physical activity and exercise for several disorders and chronic conditions.

Learning Outcomes

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

1. Identify pathological adjustments and adaptations to exercise, explain the underlying mechanisms that are involved in these abnormal responses and recommend additional considerations for testing individuals with key chronic conditions.
2. Explain the etiology and mechanisms of disease pathophysiology, signs, symptoms and potential adverse events and how associated treatments, management strategies and/or interventions will affect these characteristics.
3. Describe the therapeutic and nontherapeutic effects of medication in key chronic conditions, including their effects on physiological responses to exercise, functional capacity and other health components (e.g., recovery, weight management, mental health).
4. Discuss the clinical exercise physiologist's role in disease management and health promotion, including health and fitness assessments, risk stratification, safety management, exercise compliance and health education.

Evaluation Criteria and Grading

- Assignment *(1 x 15%)* 15%
- Tests *(3 x 20%)* 60%
- Case Study 25%

THE UNIVERSITY OF BRITISH COLUMBIA

Tentative Course Schedule *(subject to modification of topics & timelines)*

Week #	Day	Date	Lesson Topic	Reading	Assessment
1	Tuesday (Lec)	08-Sep-26	Orientation		
	Thursday (Lec)	10-Sep-26	Across the Lifespan	Chapter 2	
2	Monday (Tut)	14-Sep-26	Reading for Class		
	Tuesday (Lec)	15-Sep-26	Across the Lifespan		
	Thursday (Lec)	17-Sep-26	CV Phys Ex Review	Chapter 5	
3	Monday (Tut)	21-Sep-26	Case Studies Preview		
	Tuesday (Lec)	22-Sep-26	Cardiovascular Disease		
	Thursday (Lec)	24-Sep-26	Cardiovascular Disease		
4	Monday (Tut)	28-Sep-26	CVD case		
	Tuesday (Lec)	29-Sep-26	Cardiovascular Disease		
	Thursday (Lec)	01-Oct-26	Cardiovascular Disease		
5	Monday (Tut)	05-Oct-26	***TEST #1***		**Test 1**
	Tuesday (Lec)	06-Oct-26	Musculoskeletal Conditions	Chapter 11	
	Thursday (Lec)	08-Oct-26	Musculoskeletal Conditions		
6	Monday (Tut)	12-Oct-26	Day Off		
	Tuesday (Lec)	13-Oct-26	Endocrine and Metabolic Ex Review		
	Thursday (Lec)	15-Oct-26	Endocrine and Metabolic Disease	Chapter 10	
7	Monday (Tut)	19-Oct-26	Reading for Class		
	Tuesday (Lec)	20-Oct-26	Endocrine and Metabolic Disease		
	Thursday (Lec)	22-Oct-26	Endocrine and Metabolic Disease		
8	Monday (Tut)	26-Oct-26	Endocrine and Metabolic Case		
	Tuesday (Lec)	27-Oct-26	Immune System	Chapter 13-14	**Assignment 1 (Due)**
	Thursday (Lec)	29-Oct-26	Cancer		
9	Monday (Tut)	02-Nov-26	***TEST #2***		**Test 2**
	Tuesday (Lec)	03-Nov-26	Cancer		
	Thursday (Lec)	05-Nov-26	Cancer		
10	Monday (Tut)	09-Nov-26	*Reading Break*		
	Tuesday (Lec)	10-Nov-26	*Reading Break*		
	Thursday (Lec)	12-Nov-26	*Reading Break*		
11	Monday (Tut)	16-Nov-26	No Seminar		
	Tuesday (Lec)	17-Nov-26	Respiratory Ex Review	Chapter 8	
	Thursday (Lec)	19-Nov-26	Respiratory Disease		
12	Monday (Tut)	23-Nov-26	Reading for Class		
	Tuesday (Lec)	24-Nov-26	Respiratory Disease		
	Thursday (Lec)	26-Nov-26	Respiratory Disease		
13	Monday (Tut)	30-Nov-26	Respiratory Case Study		
	Tuesday (Lec)	01-Dec-26	Physical and Sensory	Chapter 12	
	Thursday (Lec)	03-Dec-26	Physical and Sensory		
14	Monday (Tut)	07-Dec-26	Exam Study		
	Tuesday (Lec)	08-Dec-26	**TEST #3**		**Test 3**
Final Exam Period		**December 12-22nd**		Final Project Due *(during Exam period)*	

Course Assessment Details:

Below are brief descriptions of the assessments involved in this course, including course weighting, assessment topics and estimates of time required to complete the assessment (these are estimates to help guide work requirements, however individual students may require more or less time). Due dates of assignments below are approximate and are subject to change based on course progression to permit students appropriate time for completion. Further information for each assessment will be provided during the course.

Tests

Students will complete tests related to the topics covered during lectures (and their supplementary resources) and will assess student understanding & integration of course knowledge as well as challenge students to provide a critical analysis of a component of a case study or topic in clinical exercise physiology. Tests will be closed book, non-cumulative and will be completed in-person during the weekly tutorial session at the specified times. More information regarding question style and material covered will be presented before each test.

Course Weight: 60% (3 x 20%)

Exam Dates: October 5th, November 2nd, December 8th, 2026

Assignment

One assignment will be completed that will challenge students to provide a critical analysis of a component of a case study or topic in clinical exercise physiology. Specific assignment description will be provided 10-14 days in advance of the due date and students will be asked to provide an appropriate analysis of the case presented. It is estimated that the assignment will require approximately 3-5 hours of work to complete.

Course Weight: 15% (1 x 15%)

Due Date: October 15th, 2026 (**Submitted online before class starts**)

Case Study

Students will work individually to critically evaluate a clinical case study and create a report related to the client history and condition and determine appropriate targets for an evidence-based application of exercise training to safely and effectively progress this individual towards the health or fitness goal. The Case Study will involve submission of a written report (analysis and prescription). The Case Study will be assigned during the term. Further descriptions of the assessment, cases and project grading will be provided during the course.

Course Weight: 40%

Due Date: *TBD (during Final Examination Period)*

Final Exam - *There is no final exam for this class.*

Late policy

Assignment deadlines are established to support your continued sequential and progressive learning. At the same time, we acknowledge that there are sometimes unforeseen circumstances that preclude your ability to meet those deadlines. Please inform your instructor of any late submissions, or to seek approval for an extension if needed; refer to the policies for the School of Health & Exercise Sciences (including Self-Declaration policy). With respect to these principles, the following policies apply to these evaluations:

- Assignments will be subject to a late penalty of 5% for the first 24 hours and 10% per day up to 10 days. Assignments submitted after 10 days will be given a grade of zero.

Missed Exam Policy

If students anticipate the need for rescheduling of a midterm ahead of time (for a reason outlined in the SHES polices), they must make a request to their instructor as early as possible (at least 2 weeks prior). If a midterm is *missed* for medical or other reasons outlined in the SHES policies, students must inform their instructor and request a new date for writing as soon as reasonably possible. The instructor will work with you to determine the best course of action. If you have missed an assessment, it is important that you do not discuss the missed exam with students who have written the exam, as this constitutes a form of Academic Misconduct. Please note, no re-writes (writing an assessment more than once) will be permitted and requests for moving of a midterm date may or may not be approved. Final exam is addressed below.

Passing/Grading Criteria

You must achieve an overall grade of at least 50% to pass this course. Individual assessments will have their own grading criteria, please ensure you understand their policies through the term.

Policies and Regulations

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.

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

Resources to Support Student Success

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.

Other Course Policies:

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.

Academic misconduct

The academic enterprise is founded on honesty, civility, and integrity. Violations of academic integrity (i.e., academic 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 may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred for consideration for academic discipline. Careful records are kept to monitor and prevent recurrences. Any instance of cheating or taking credit for someone else's work, whether intentionally or unintentionally, can and often will result in at minimum a grade of zero for the assignment, and these cases will be reported to the Head of the Department and Associate Dean Academic of the Faculty.

Do not use generative artificial intelligence (AI): The use of generative AI tools, including ChatGPT and other similar tools, to complete or support the completion of any form of assignment or assessment in this course is not allowed and would be considered academic misconduct. Learn more through the Generative AI website.

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:
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.
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.
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.
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.
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.
Email: ubco.global@ubc.ca
Web: www.students.ok.ubc.ca/global-engagement-office/

Safewalk

Don't want to walk alone? Not too sure how to get somewhere on campus? Call Safewalk at **250-807-8076**. Web: www.security.ok.ubc.ca