THE UNIVERSITY OF BRITISH COLUMBIA

School of Health and Exercise Sciences
HES 353 – Clinical Exercise Prescription | Winter Term 2, January 2026

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

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Academic Calendar Entry

Advanced exercise prescription considerations for individuals with chronic conditions and special populations (e.g., pediatric, aging). [3-3-0] *Prerequisite: HES 352. Registration limited to students in the Clinical Exercise Physiology concentration of the B.H.E.S program.*

Class Schedule *(all times in Pacific Daylight/Standard Time; local time Kelowna, BC)*:

- **LECTURE [ART 218]**: Wednesdays: 8:00am – 11:00am
- **LAB [UCH 109]**: Fridays: 8:00am – 11:00am

Course Format

The course combines lecture and laboratory components to achieve the learning objectives. Lectures will focus on the physiological, psychological and operational considerations of exercise prescription and program design in clinical populations and provide an overview of current guidelines and recommendations for exercise and physical activity for the prevention, treatment and management of chronic conditions. Labs will provide experiential learning opportunities for students to design, implement and adapt exercise prescriptions, based on care provider referrals, client status, needs, goals and responses to the program.

Course Delivery

LECTURE: Lectures will be delivered **in-person**, with some asynchronous learning phases to complement lecture sessions. Lectures will be hosted in the above room location, unless otherwise noted, and will begin at the scheduled class times. These sessions will also be recorded and uploaded to the course website for students who cannot attend. In the cases of asynchronous lesson delivery, 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 the subsequent lesson.
LABORATORY: Laboratory sessions will be conducted **in-person** and will begin at the start of students' scheduled laboratory section time. Attendance is mandatory for laboratory sessions unless illness or excused absence (approved by course instructor) precludes student attendance. There is 3 hours of time allocated for labs. On some weeks, the practical labs will run for the full 3 hours, on other occasions the final 60-90 minutes of the lab will be utilized for optional "open lab" times to provide students opportunities to enhance practical skills using specialized equipment. More information will be provided through the term.

Required Readings

- Bayles, M. P. (2024). *ACSM's Exercise Testing and Prescription*. Wolters Kluwer.
- 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

- Readings will be provided during the term, as supplemental resources for learning
- Gordon, B., Chambliss, H., Durstine, J., Jett, D., & Ross, L. (2021). *ACSM's Resources for the Exercise Physiologist: A practical guide for the health fitness professional* (3rd Ed.). Wolters Kluwer.
- Canadian Society for Exercise Physiology – Physical Activity Training for Health (CSEP-PATH). Canadian Society for Exercise Physiology.
- Gibson AL, Wagner DR & Haywood VH (2018) Advanced Fitness Assessment and Exercise Prescription 8th Edition. Human Kinetics.

Course Overview, Content, and Objectives

The course is designed to advance student understanding and skill in exercise prescription and integrate the pathophysiological and health-specific needs of individuals with one or more chronic conditions in the design of exercise programs and lifestyle interventions. The learning objectives are:

- To introduce students to current standards, guidelines and recommendations for exercise programming and rehabilitation across various chronic conditions.
- To advance student application of the principles of exercise training and prescription to individuals at risk of, or with chronic conditions.
- To facilitate student appreciation and understanding of a client-centered approach to exercise and training program design, implementation and appraisal, and support student competence in exercise monitoring and decision-making for safe and effective exercise prescription.

Learning Outcomes

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

1. Evaluate current standards and recommendations for exercise and rehabilitation for key chronic conditions and critique additional evidence-based approaches to exercise prescription and rehabilitation.
2. Describe effective implementation strategies for exercise prescription, including exercise training sequencing, goal setting, principles of exercise prescription, as it applies to components of fitness and health (e.g. cardiorespiratory endurance, skeletal muscle strength and endurance, flexibility training, body composition) and considers relevant personal, clinical and environmental factors.
3. Design exercise prescriptions for individuals at risk of, and with chronic conditions based on patient history, clinical status and goals, assessment results, resources available, location of training, medications, comorbidities, and chronic condition considerations.
4. Design & implement safe and effective individual exercise sessions for individuals with chronic conditions and special considerations including appropriate warm-up, main sets and cool down, and in consideration of the sequencing, timing, and progression within the overall training intervention.

Course Assessments	**[% of grade]**
Warm-up Project *(5%)*	[5%]
Tests (20% + 20%)	[40%]
Integrated Interview & Rx Project	[20%]
Practical Final Exam	[35%]

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Course Schedule (Subject to modification of topics and timelines)

Wk	Session	Day	Date	Topic	Assessment
1	LEC	Wednesday	07-Jan-26	General Principles of Exercise Prescription and Goal Setting	
	LAB	Friday	09-Jan-26	*Goal Setting and Clinical Exercise Prescription*	
2	LEC	Wednesday	14-Jan-26	Stress-Adaptation Models, Sequencing Stress-Recovery, Fundamentals of Training Program Design.	
	LAB	Friday	16-Jan-26	*Leading Small-Group Training Sessions*	
3	LEC	Wednesday	21-Jan-26	Aerobic Exercise Prescription and Training Adaptations	
	LAB	Friday	23-Jan-26	*Aerobic Training (Continuous & Intervals)*	
4	LEC	Wednesday	28-Jan-25	Aerobic Exercise Prescription – Cardiovascular / Metabolic Conditions	
	LAB	Friday	30-Jan-26	*Weight Loss Programming and Sessions*	
5	LEC	Wednesday	04-Feb-26	Aerobic Exercise Prescription – Cancer/ Respiratory/ MSK and Neurological Conditions	
	LAB	Friday	06-Feb-26	*Cardiac Rehabilitation Simulation*	
6	LEC	Wednesday	11-Feb-26	**Test #1** and TBD	**Test #1**
	LAB	Friday	13-Feb-26	*Modifying Exercise for People with Orthopedic and Musculoskeletal Limitations*	
7	LEC	Wednesday	18-Feb-26	Reading Break (No Classes)	
	LEC	Friday	20-Feb-26	Reading Break (No Classes)	
8	LEC	Wednesday	25-Feb-26	Resistance and Power Training Prescription and Adaptation to Training	
	LAB	Friday	27-Feb-26	*Resistance Training - Strength and Power*	
9	LEC	Wednesday	04-Mar-26	Resistance Training Prescription – Cardiovascular / Metabolic	
	LAB	Friday	06-Mar-26	***Client Interview and Case Analysis***	***Interview Practical***
10	LEC	Wednesday	11-Mar-26	Resistance Training Prescription – Cancer/ Respiratory/ MSK and Neurological Conditions	
	LAB	Friday	13-Mar-26	*Leading Sessions with Multiple Goals*	
11	LEC	Wednesday	18-Mar-26	Flexibility, Mobility, and Neuromotor Training	
	LAB	Friday	20-Mar-26	*Balance-Focused Sessions for Older Adults*	
12	LEC	Wednesday	25-Mar-26	Integrating Modalities of Training	
	LAB	Friday	27-Mar-26	***Final Practical Exam Practice Session***	
13	LEC	Wednesday	1-Apr-26	Monitoring, Safety and Drug Considerations for Exercise Prescription.	
	LAB	Friday	3-April-26	Statutory Holiday (Easter)	
14	LEC	Wednesday	8-April-26	**Test #2**	**Test #2** **Rx Project – Due 15-04-26**
	LAB	Friday	10-April-26	**Optional Open Lab for HES 352 and 353**	
Final Exam Period April 13-24th				**Final Lab Exam (Individual Exercise Prescription)**	**Final Practical Exam**

Below are brief descriptions of the assessments involved in this course, including course weighting and assessment topics. 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.

Test #1 and Test #2 *(40% - 20% / Test)*
Description: Students will complete two tests related to the topics covered during lectures (and their supplementary resources) and will assess student understanding & integration of course knowledge. Tests will be closed book, non-cumulative and will be completed in-person during the weekly lecture at the specified times. More information regarding question style and material covered will be presented before each test.
Dates: Test #1 (Feb 11) and Test #2 (Apr 8).

Warm-Up Project *(5%)*
Description: Students design and lead a warm-up session tailored to a specific client goal or population. The general description and/or goals for the warm up will be provided during the term, but will evaluate student design and leadership of a warm up or cool down given a particular scenario and environment setting. Includes a written summary and practical delivery during lecture or lab.
Due: At assigned date, February 13th - March 20th.

Integrated Interview & Clinical Exercise Prescription (Rx) Project *(20%)*
Description: A two-part project that assesses communication, client assessment, and program design skills. where students: i) Conduct a simulated client interview to gather health, fitness, and lifestyle information (March 6th); ii) Develop a comprehensive exercise prescription report (due TBD) that addresses the appropriate training targets to support the client towards their goals and considers aspects of their condition, lifestyle, limitations, medical management and other components.

Final Practical Exam *(35%)*
Description: A hands-on, individualized exercise prescription implementation where students demonstrate their ability to: i) Apply theoretical knowledge to practical scenarios; ii) Safely and effectively lead a client through a tailored exercise program; iii) Adapt and monitor exercises as needed during the session.
Date: Final Exam Period (April 13-24th).

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 our 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.
- Regrading of marked assignments will only be performed up to 10 days after an assessment has been marked, and after a reasonable course of action has been taken (e.g., reviewed the assignment rubric, discussed with the instructor, reflected on the answers, support for alternative marking) at which point another teaching member or third party will mark the assignment.

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 completed 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.

Missed Activity Policy:

Throughout the term, students will be asked to participate as a community of learners, contributing to the evolution of course material, peer learning, interpersonal discourse and feedback. Class participation is especially valuable during tutorial sessions, where students will work together to conduct activities that promote learning. Therefore, **full attendance and active participation in laboratory activities is required for course completion** (exceptions may be granted for students with excused absences). A mark of Pass / Fail will be given for attendance and active participation (e.g., contributing to group discussions, safe and professional conduct) in laboratory sessions through the term. *There is a 10% deduction from the total course mark for every unexcused absence to laboratory sessions.* If you are sick or have another unforeseen issue arise, please contact your instructor as soon as possible so that other accommodations may be made.

Passing/Grading Criteria

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

Learning Resources

Open Lab: In this course, you will be assessed on your competence in a series of skills that relate to exercise testing. In order to support your learning of these practical skills, you be provided opportunities both in-lab and optional (Open Lab) time. To engage in these 'Open Lab' sessions, you may need to sign up, come to UCH with another student in the class, and use the equipment responsibly to practice. A staff member will be present, but will not be leading a session; they will ensure safe practice and may provide feedback to you in your skills. You will need to follow the standard laboratory regulations during Open Lab times.

Estimated Coursework Time:

Quality of learning is more important than quantity; every student learns differently and requires different time to learn and complete tasks, but these estimates highlight some expectations of time required to support your learning.

- *Lecture*: 160 mins / week
- *Laboratory*: 160 mins / week
- *Reading*: 60 mins / week
- *Practice Skills*: 60 mins / week
- *Assignments, Study*: 30mins / week

TOTAL COURSE TIME: ~8-9 hrs / week

Additional UBC-Okanagan 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.

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.

Final Examinations

The examination period for Term 2 is April 13th-24th. Except in the case of examination clashes and hardships (three or more formal examinations scheduled within a 24-hour period) or unforeseen events, students will be permitted to apply for our-of-time final examinations only if they are representing the University, the province or the country in a competition or performance; serving 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 can be found under Policies and Regulation in the *Okanagan Academic Calendar* http://www.calendar.ubc.ca/okanagan/index.cmf?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:
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