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 311: Pathophysiology

Faculty: Faculty of Health and Social Development

Department: Health and Exercise Sciences

Instructor: Dr. Gina Whitaker

Duration: Term 2 Winter 2025

Delivery Modality: In-Person

Course Location: FIP 204

Course Days: Tuesday/Thursday

Class Hours: 2pm - 3:20 pm

Office hours: Weekly office hours will be held in person in ART 159 (Gina's office). Times will be posted on the course canvas front page by the end of week 1 and will begin in week 2. Students can also make an appointment to meet with Gina.

Course Description

The physiological basis of selected skeletal, muscular, cardiovascular, respiratory, and nervous system disorders, and their effects on health and exercise. The etiology and pathophysiology of common chronic diseases, including Cancer, will be discussed.

Course Format

We will meet together for class twice per week on Tuesdays and Thursdays 2 - 3:20pm in FIP 204. Notes will be posted on canvas prior to class and lectures will be recorded and posted on canvas after class. Please note that there is not an option to attend lecture online. Your attendance in class is very strongly recommended and lecture recordings are posted so that you can review content after class and also in case you need to miss a class here or there for good reason.

Learning Materials

Recommended course textbook: Gould's Pathophysiology for the Health Professions 6th edition, Robert Hubert Textbook can be purchased by e-text. You can purchase the e-text using the following link:

https://evolve.elsevier.com/cs/product/9780323792905?role=student

HES 311:Pathophysiology
2025W2

Learning Outcomes

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

1. Explain how common disease mechanisms (inflammation, infection, fluid/electrolyte and acid/base imbalances, cell injury/aging, cancer, and trauma) lead to dysfunction in tissues, organs, systems, and individuals

2. Explain the physiological rationale for common disease risk factors (stress, obesity, hypertension, hyperglycemia, dyslipidemia, sedentary behavior, tobacco use) and protective factors (regular physical activity, appropriate nutrition, adequate sleep)

3. Describe the key features - epidemiology, etiology, risk factors, pathogenesis, clinical manifestations, comorbidities, and treatments - of conditions that are most salient for health and exercise professionals

4. Use physiological reasoning to predict key disease features when given incomplete information about an unfamiliar condition

Assessments of Learning

Assessment Description	Weight	Learning Outcome(s) Assessed
Review Quizzes	10%	LO 1 – 4
Midterm – Feb 24th	25%	LO 1 – 4
Case Studies x 2	10%	LO 1 - 4
Research project and presentation	20%	LO 2 – 3
Class participation (i-clickers)	5%	LO 1 – 4
Final Exam (cumulative) Date TBA	30%	LO 1 – 4
Total	100%	

1) Review quizzes will be posted every 2 weeks and will cover content from lectures the previous weeks. These are open book and meant to help students stay on pace with the course content and provide exam practice. *Please note – these are optional (all or nothing). If you choose not to complete the review quizzes (5 in total), then an extra 5% will be assigned to each of your exams (midterm and final exam).*

2) Your Midterm Exam will take place on Feb 24th and will be based on course content covered during week 1 – 6.

3) You will complete 2 Case Studies over the semester, each worth 5%. These case studies will further apply learning from class, encouraging critical thinking, problem solving and application to health & exercise.

4) Your project will involve researching a chronic disease with application to an aspect of allied health, summarizing this research in paper outline format and then creating and presenting a research poster during our in-class poster presentation week.

5) Your final exam will have a larger focus on post-midterm material. The cumulative portion will be based on a limited number of learning outcomes that will be communicated to you after the midterm. More detail will be given later in the semester.

6) We will use i-clickers to encourage in-class participation. You must answer questions from at least 75% of lectures in order to get full participation marks. This should account for all excused absences so you should not need to request any further excused absences.

Learning Activities

The weekly modules on canvas will direct students to all learning content and readings for the week and to various optional activities (e.g. videos) that will support the learning of material covered during lectures.

Lecture Schedule & Required Readings

Please note that this schedule is subject to change. The up-to-date weekly schedule will be posted on canvas.

	Topics	**Textbook Readings (Recommended)**
Week 1 Jan 5 – 9	Intro to the course, Pathophysiology terminology Pharmacology Basics I	Ch 1 Ch 3
Week 2 Jan 12 – 16	Pharmacology Basics II Fluid & Electrolyte & Acid-Base Imbalance	Ch 3 Ch 2
Week 3 Jan 19 – 23	Pain, Inflammation – Chronic vs Acute	Ch 4 – 5
Week 4 Jan 26 – 30	Infection & Immunity Bone & Joint Disorders	Ch 6 -7 Ch 9
Week 5 Feb 2 - 6	Bone & Joint Disorders Concussion & SCI	 Ch 14
Week 6 Feb 9 - 13	Neuromuscular Disorders Midterm Review	
Feb 16 – 20	READING BREAK	
Week 7 Feb 23 – 27	**Midterm Feb 24th** Cardiovascular System Disorders I	 Ch 12
Week 8 Mar 2 – 6	Cardiovascular System Disorders II	Ch 12
Week 9 Mar 9 – 13	Cardiovascular System Disorders II Respiratory System Disorders	Ch 12 Ch 13
Week 10 Mar 16 – 20	Respiratory System Disorders *(March 17th lecture will be online, asynchronous)* Poster Prep	Ch 13
Week 11 Mar 23 – 27	Metabolic Disorders	Ch 16
Week 12 Mar 30 – Apr 3	In-Class Poster Presentation Week	Ch 20
Week 13 April 6 – 9	Cancer Semester Review	
April 13 - 24	Final Exam period (HES 311 date is TBA)	

HES 311:Pathophysiology
2025W2

Late policy

All assignments are due at the specified due date and time indicated on Canvas. There are certain extenuating circumstances that will allow for a due date extension of an assignment. These are: acute illness or emergency. Please note that the instructor will not make accommodations for work schedule or other extra curricular activities. Please reach out to your instructor prior to the upcoming assessment and the instructor will determine eligibility for extension on a case-by-case basis.

Please note that the **Canvas quiz due dates are FIRM**, meaning there will be NO EXTENTIONS. If you do not submit your quiz by its due date, you will receive a 0 on that quiz. Please note that the lowest quiz mark will be dropped at the end of the term.

A **flex 48h deadline can be applied to one of your two case studies** – this means that you can have a 48h extension on one of your case studies, no questions asked. After the 48h, you will be deducted 10% per day (beginning as soon as the 48h period has passed). The 48h flex can only be applied to one case study and for the other case study, a 10% deduction per day applies immediately once the due date has been reached (even if your assignment is handed in 1 minute late).

Your research outline and poster must be submitted by their deadline – this is a firm deadline (10% penalty per day applies).

Missed exam policy

If you miss the midterm for an extenuating circumstance (acute illness or emergency), please notify your prof immediately and **before the start time of the exam**. You must also submit a self-declaration form **before the start time of the exam** to the School of Health & Exercise Sciences and if approved, your instructor will make arrangements with you for an alternate exam. Please see the HES student policies (posted on the canvas course front page) for more detail and link for completing the self-declaration form.

If you need to miss the final exam for an extenuating circumstance (acute illness or emergency), you must let your prof know immediately, apply for an out-of-time exam through the department, and provide valid documentation of the reason for the missed final exam. This must all be completed BEFORE the start time of the exam. Please note that your request for an out-of-time exam may not be approved. The link to this form can be found on MyHES.

Use of AI Tools

Students are permitted to use artificial intelligence tools, including generative AI, to support their studying in this course but it is up to the student to ensure that the material produced for study purposes is accurate and in line with the content covered in the lectures. Exams and quizzes will be based solely on material covered in lecture and labs.

Students are permitted to use 'Consensus AI' as a search engine to complete literature searches for their research project. Students are not permitted to use any type of AI to synthesize or curate content for their poster preparation or presentation.

HES 311:Pathophysiology
2025W2

UBC Policies & Resources

Please note: HES-wide undergrad policies, and procedures for academic concession requests can be found on the front page of our Canvas Course.

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.

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.

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. Further information on Grading Practices can be found in the Okanagan Academic Calendar.

HES 311:Pathophysiology
2025W2

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.

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