



### **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 1 Winter 2023

**Delivery Modality:** In-Person

**Course Location:** FIP 204

**Course Days:** Tuesday/Thursday

**Class Hours:** 5 - 6:20 PM

**Office hours:** Weekly office hours will be held in person. Time will be posted on canvas at the beginning of the semester. Students can also make an appointment to meet with the course instructor.

### **Course Description**

The physiological basis of selected cardiovascular, muscular, 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 5-6:20pm 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 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**

1	Review Quizzes	10%
2	Midterm Exam	20%
3	Case Studies x 2	10%
4	Research project	25%
5	Final Exam	30%
6	I-clicker participation	5%

- 1) Review quizzes will be posted at the end of each week and will cover content from lectures that week. These are 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 Oct 17<sup>th</sup> and will be based on course content covered during week 1 – 6. We will hold a midterm review session during the class prior (Oct 12<sup>th</sup>).
- 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, 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.
- 6) We will use i-clickers to encourage in-class participation.

### **Learning Activities**

The weekly modules 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.*

	<b>Topics</b>	<b>Readings</b>
<b>Week 1</b> Sept 5 - 8	Intro to the course, Pathophysiology terminology Pharmacology Basics I	Ch 1 Ch 3
<b>Week 2</b> Sept 11 - 15	Pharmacology Basics II Fluid & Electrolyte & Acid-Base Imbalance	Ch 3 Ch 2
<b>Week 3</b> Sept 18 - 22	Pain, Inflammation – Chronic vs Acute	Ch 4 - 5
<b>Week 4</b> Sept 25 - 29	Infection & Immunity	Ch 6 -7
<b>Week 5</b> Oct 2 - 6	Bone & Joint Disorders	Ch 9
<b>Week 6</b> Oct 9 - 13	Neuromuscular System Disorders I Midterm Review	Ch 14
<b>Week 7</b> Oct 16 - 20	<b>Midterm – Oct 17<sup>th</sup></b> Neuromuscular System Disorders II	Ch 14
<b>Week 8</b> Oct 23 - 27	Neuro-cognitive Disorders (Concussion & Dementias) Blood & Lymphatic System Disorders	Ch 14 Ch 10, 11
<b>Week 9</b> Oct 30 – Nov 3	Cardiovascular System Disorders	Ch 12
<b>Week 10</b> Nov 6 - 10	Respiratory System Disorders	Ch 13
Nov 13- 17	MIDTERM BREAK (ALL CLASSES CANCELLED)	
<b>Week 11</b> Nov 20 - 24	In-Class Poster Presentation Week	
<b>Week 12</b> Nov 27 – Dec 1	Endocrine/Metabolic Disorders	Ch 16
<b>Week 13</b> Dec 4 - 7	Cancer Semester Review	Ch 20
Dec 10 - 21	Final Exam period (HES 311 date is TBA)	

**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: health concerns, family emergency, travel for team sports. Proof of the extenuating circumstance such as a doctor’s note or team sport travel itinerary is preferred. 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 assignment or quiz due date and the instructor will determine eligibility for extension on a case-by-case basis.

**Missed exam policy**

If you are going to miss the midterm for an extenuating circumstance, you must submit a self-declaration form along with appropriate documentation (e.g. doctor's note or team travel itinerary) to the School of Health & Exercise Sciences and once 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.

If you miss the final exam for an extenuating circumstance, you must apply for an out-of-time exam through the department, and provide valid documentation of the reason for the missed final exam. The link to this can be found on MyHES.

### **Learning Materials**

Required course textbook: Gould's Pathophysiology for the Health Professions 6th edition, Robert Hubert Textbook can be purchased by hard copy or e-text through the UBC Okanagan Bookstore.

## **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 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**

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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>

**Student Service Resources:** Below are common resources that are available to you

### **UBC Okanagan Disability Resource Centre**

The Disability Resource Centre ensures educational equity for students with disabilities and chronic medical conditions. If you are disabled, have an injury or illness and require academic accommodations to meet the course objectives, please contact Earllene Roberts, the Manager for the Disability Resource Centre located in the University Centre building (UNC 214).

**UNC 214**          250.807.9263

email: [earllene.roberts@ubc.ca](mailto:earllene.roberts@ubc.ca)

Web: [www.students.ok.ubc.ca/drc](http://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 216**          250.807.9291

email: [equity.ubco@ubc.ca](mailto:equity.ubco@ubc.ca)

Web: [www.equity.ok.ubc.ca](http://www.equity.ok.ubc.ca)

### **Health and Wellness**

At UBC Okanagan health services to students are provided by Health and 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 Health and Wellness for more information or to book an appointment.

**UNC 337**          250.807.9270

email: [healthwellness.okanagan@ubc.ca](mailto:healthwellness.okanagan@ubc.ca)

Web: [www.students.ok.ubc.ca/health-wellness](http://www.students.ok.ubc.ca/health-wellness)

### **Student Learning Hub**

The Student Learning Hub (LIB 237) 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**

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**help with study skills and learning strategies.** For more information, please visit the Hub's website (<https://students.ok.ubc.ca/student-learning-hub/>) or call 250-807-9185.

### **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](mailto:geo.ubco@ubc.ca)

### **© Copyright Statement**

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

### **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](http://www.security.ok.ubc.ca)*