



### **Land Acknowledgement**

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

## **HES 111: Human Anatomy & Physiology II**

**Faculty:** Faculty of Health and Social Development

**Department:** Health and Exercise Sciences

**Instructor:** Dr Gina Whitaker

**Duration:** Term 2, Winter 2024-2025

**Delivery Modality:** In-Person

**Course Location:** FIP 204 (lectures) and in UCH 010 (labs)

**Course Days:** Tues/Thurs lectures (lab days are Mon-Fri, depending on what time slot you registered for)

**Class Hours:** 3:30pm – 4:50pm

**Office hours:** Weekly office hours will be held in person (ART 159). Time will be posted on canvas at the beginning of the semester and will begin week 2. Students can also make an appointment to meet with me (Prof. Gina) if they can't make office hours.

### **Course Description**

An introduction to human physiology from the cellular to the systemic level. This course will examine the neuroendocrine system, cardiovascular system, respiratory system, gastrointestinal system, renal function, immune function and reproduction.

### **Course Format**

We will meet together for class twice per week on Tuesdays and Thursdays 3:30-4:50pm in FIP 204. These sessions will also be recorded and posted on canvas after class. Weekly labs (8 in total) will begin in week 2. You must attend the lab day and timeslot that you registered for.

### **Course Overview, Content and Objectives**

This course is the second of a two-semester series which will introduce the student to foundational concepts in human anatomy and physiology. HES 111 topics include: Function and integration of neuroendocrine, cardiovascular, respiratory, gastrointestinal, urinary & reproductive systems. In keeping with competency-based learning, concepts will be consistently applied to exercise and the field of health.

The content presented in this course is based on the following objectives:

1. Develop foundational knowledge of the anatomical and functional characteristics of cells, organs and organ systems relevant to human function and movement.
2. Understand the link between structure and function, and the application to integration and regulation of physiological function
3. Apply foundational knowledge of human anatomy and physiology to movement, exercise and the field of health

### **Learning Outcomes**

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

1.	Define and apply anatomical terms to human body systems
2.	Explain foundational concepts in human physiology relating to: Homeostasis; Molecular and Cellular Biology; Energy Metabolism
3.	Identify and explain the structural and basic functional anatomy of the endocrine, cardiovascular, respiratory, gastrointestinal, urinary and reproductive systems
4.	Explain the basic function, regulation and integration of the endocrine, cardiovascular, respiratory, gastrointestinal, urinary and reproductive systems

### **Assessments of Learning**

1	Weekly Canvas assignments	10%
2	Lab activities & quizzes	30%
3	Midterm 1 - Feb 6 <sup>th</sup>	10%
4	Midterm 2 – Mar 18 <sup>th</sup>	15%
5	Class participation (i-clicker)	5%
6	Final Exam (cumulative)	30%

### **Learning Activities**

*Weekly learning content, readings and activities will be posted the Friday before in canvas modules*

- The weekly modules on canvas will direct students to various optional activities that will support the learning of material covered during lectures.
- Students are encouraged to attend all classes and participation will be assessed using i-clickers. In order to receive full participation marks, you must participate in 75% of the lectures via i-clicker. (Information on how to download the iclicker app is posted on canvas. This app is free for UBC students).
- Classes notes will be posted prior to class start and lectures recordings posted to canvas after class.
- Weekly review quizzes (open book) will be taken on canvas and based on the previous week's class material. These will always be due on Monday night.
- Lab activities will be completed during lab using LT software (online software can be accessed in lab and from home). There will be 8 lab activities to complete over the semester. Attending labs in person will allow the student to access anatomy models and collect real-time data, as well as work on their labs with other students and receive in person TA support. The first lab will take place in week 2.

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- Midterms (closed book) will be taken in person during class time on the posted dates. Midterm 2 is non-cumulative (only tested on material covered in class in week 6-10).
- Final exam (closed book) will be cumulative (based on all course material covered over the semester) and must be taken in person during exam period (date and time is TBA).

**Course Schedule & Readings**

Please note: this schedule is subject to change and exact detailed content will be posted in the weekly modules on canvas. Midterm exam dates are final (not subject to change).

	<b>Topics, labs &amp; exams</b>	<b>Required Readings</b>
<b>Week 1</b> Jan 6 – 10	Intro to the course, Endocrine System I	Ch 16.1 – 16.4
<b>Week 2</b> Jan 13 – 17	Ch 17 – Cardiovascular System I <b>Lab 1 – Intro, CV I anatomy</b>	Ch 17.1-17.2
<b>Week 3</b> Jan 20 – 24	Ch 17 – Cardiovascular System II <b>Lab 2 – CV II Heart Sounds &amp; ECG</b>	Ch 17.3 – 17.5
<b>Week 4</b> Jan 27 – 31	Ch 18 – Cardiovascular System III <b>Lab 3 – CV III Pulse &amp; BP Measurements, Cardiac Cycle</b>	Ch 18.1 – 18.5
<b>Week 5</b> Feb 3 – 7	Practice & Review Session <b>Midterm 1 Feb 6th</b> (based on week 1 – 4 material) <b>(no labs)</b>	
<b>Week 6</b> Feb 10 – 14	Ch 19 & 20 – Blood & Lymphatic Ch 21 – Respiratory System <b>Lab 4 – Blood Typing Lab</b>	Ch 21.1 – 21.2
Feb 17 - 21	READING BREAK	
<b>Week 7</b> Feb 24 – 28	Ch 21 – Respiratory System <b>Lab 5 – Respiratory I – Lung Anatomy, Breathing &amp; Pulse Rate</b>	Ch 21.3 – 21.7
<b>Week 8</b> Mar 3 – 7	Ch 22 – GI System <b>Lab 6 – Respiratory II – Lung Capacities &amp; Flow Rates</b>	Ch 22.1 – 22.6
<b>Week 9</b> Mar 10 - 14	Ch 22 – GI System Practice & Review Session <b>Lab 7 – Respiratory III – O<sub>2</sub>-Hb Binding curves</b>	Ch 22.7 – 22.8
<b>Week 10</b> Mar 17 – 21	<b>Midterm 2 March 18</b> (based on week 6 – 9 Ch 23 – Metabolism I	Ch 23.1 – 23.6
<b>Week 11</b> Mar 24 – 28	Ch 24 – Urinary System <b>Lab 8 – Metabolism – Glucose Absorption</b>	Ch 24.1 – 24.4
<b>Week 12</b> Mar 31- Apr 4	Ch 25 – Fluid, Electrolyte & Acid-Base Homeostasis <b>No labs (online lt lab 9)</b>	Ch 24.5 – 24.10 Ch 25.1 – 25.5
<b>Week 13</b> April 7 – 8	Ch 26 – Reproductive System Semester Review <b>(no labs)</b>	Ch 26 (selected sections)
<b>April 11 - 26</b>	Final Exam period (HES 111 date is TBA and exam will be cumulative)	

### **Late policy**

Lab and other class assignments are due at the specified due date and time indicated on Canvas.

There are certain extenuating circumstances that will allow of extension of a quiz or lab activity. These are: illness, family emergency, travel for team sports. Please note that the instructor will not make accommodations for work schedule or other extracurricular activities. Please reach out to your TA prior to the upcoming lab activity or quiz due date and the TA will work with Dr Whitaker to determine eligibility for extension on a case-by-case basis.

### **Missed exam policy**

If you need to miss a midterm for an extenuating circumstance, **you must submit a self-declaration form PRIOR TO THE MIDTERM START**, to the School of Health & Exercise Sciences and once approved, together you and your instructor will arrange for an alternate exam sitting. Supporting documentation, such as a doctor's note may be requested. Please see the HES student policies (posted on the canvas course front page) for more detail and link to the self-declaration form.

If you need to miss the final exam for an extenuating circumstance (medical or family emergencies only), you must apply for an out-of-time exam through the department, and provide valid documentation of the reason for the missed final exam

### **Missed Activity Policy:**

Lab attendance is mandatory. There are certain extenuating circumstances that will allow for a missed lab. These are: illness, family emergency, travel for team sports. Please note that the instructor will not make accommodations for work schedule or other extracurricular activities. Please reach out to your TA BEFORE YOUR LAB TIME to let them know that you are missing a lab and why. They will determine whether your absence is excused and will consult with Dr Whitaker if needed. If you miss more than 1 lab for an excused reason, you will be put in contact with Dr Whitaker to set up a meeting to discuss a plan for making up these labs. **You are not permitted to miss more than 2 labs in total** over the semester for excused reasons.

Both the lowest weekly canvas review quiz and lowest lab activity mark will be dropped at the end of semester in order to accommodate for life circumstances that might cause you to miss one. **Please note that extensions will not be provided under any circumstances on weekly canvas review quizzes.**

### **Passing criteria**

As per the HES Policies, you must pass both the lab and lecture components of a course to receive a passing grade in that course. If you happen to fail one of these components, yet your total grade is still above 50%, then your final grade will be 49%.

In addition, in this course you must obtain a passing grade on the combination of exams (midterm 1, 2 and final exam) in order to pass the course.

### **Learning Materials**

- Course textbook package: Amerman, EC (2025) Human Anatomy & Physiology 3<sup>rd</sup> Edition with Mastering A&P. Pearson. This is purchased through the UBC Okanagan bookstore and is only currently available via e-text package. Please note, if you already purchased this last term, you DO NOT need to purchase it again).
- Lab Software: ADI Instruments LT lab software. (to be purchased through the UBC-Okanagan bookstore). Please note that the Lt software access that you activated last semester should last you until the end of this semester. You will require access until April 11<sup>th</sup>.

### **Other Course Policies**

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

### **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**

Please ensure that you are available in person for the entirety final exam period. The final exam dates will be posted by mid-February. 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>

## Student Services Resources:

### 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](mailto:drc.questions@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 325H**      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)

### 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](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 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](mailto:learning.hub@ubc.ca)

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

### 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)*