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 101: Human Physiology I

Faculty: Faculty of Health and Social Development

Department: Health and Exercise Sciences

Instructor(s): Dr Gina Whitaker

Duration: Term 1 Winter 2026

Delivery Modality: In-Person

Course Location: FIP 204

Course Days: Mon/Wed

Class Hours: 11am – 12:20pm

Lab Hours: Varies. Please attend the lab section that you registered in (labs for HES 101 begin in week 2)

Office hours: Weekly office hours will be held in ART 159 (Dr Whitaker's office). Time will be posted on canvas at the beginning of the semester. Students can also make an appointment to meet with me in person in my office, or on zoom if needed.

Course Description

Human physiology from the cellular to the systemic level including cellular function, metabolism, the skeletal system, neuromuscular system, and nervous system.

Course Format

We will meet together for class twice per week. These sessions will also be recorded and posted on canvas after class. Weekly labs (8 in total) will begin in week 2 in UCH 110. **Please note that lab attendance is mandatory and you must attend the lab day and time that you registered for.**

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Course Content and Objectives

This course is the first of a two-semester series which will introduce the student to foundational concepts in human anatomy and physiology, with an emphasis on integration and regulation of homeostasis. HES 101 topics include: Cell and molecular biology; Histology; Microscopic functional anatomy of bones and muscles; Function and integration of the skeletal, muscular and nervous 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

Primary Learning Outcomes

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

1. Describe key chemical and biological components that support and maintain homeostasis.
2. Describe important cellular biological functions and processes associated with cell metabolism, reproduction, cell death and other vital needs.
3. Identify and explain the structural and functional components of key tissues, organs and organ systems and how each component is important in the maintenance of health, human development and homeostasis.
4. Demonstrate comprehensive understanding of structures, functions and interdependence of several important human systems including: cells, tissues, and the skeletal, neuromuscular and nervous systems.

Assessments of Learning

Assessment Description	**Weight**	**Learning Outcome(s) Assessed**
Weekly Review Quizzes	10%	LO 1 – 4
Lab activities	30%	LO 1 – 4
Midterm 1 – Oct 14th	10%	LO 1 – 4
Midterm 2 – Nov 16th	15%	LO 3 – 4
Class participation (i-clickers)	5%	LO 1 – 4
Final Exam (cumulative) Date TBA	30%	LO 1 – 4
Total	100*%*	

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Learning Activities

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

- In-class active learning and participation will be facilitated using iclickers. 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 will be posted on canvas. This app is free for UBC students).
- Weekly review quizzes (open book) will be taken on canvas and based on the previous week's class.
- Pre-Lab quizzes will be due prior coming to labs and will be based on that week's lab content. Lab activities will be completed during lab using LT software (online software can be accessed in lab and from home).
- Midterms (closed book) will be taken in person during class time on the posted dates. Midterm 2 is not cumulative (only tested on material covered in class in week 6-9).
- Final exam (closed book) **will be cumulative** (based on all course material covered over the semester) and will be taken in person during the UBCO exam period.

Learning Materials

The following learning materials will be used in this course. Please note, we will also be using these same resources in the following semester in HES 111 (you will not need to purchase these again)

UBCO bookstore link for direct purchase:
https://the.bookstore.ubc.ca/CourseSearch/?course%5B%5D=UBCO,2026W1,HES,HES101,001

- REQUIRED Lab Software: LT lab software. (Purchased through the UBC-Okanagan bookstore). You will purchase a 7-month pass**.** We will begin using this software in mid-September and will continue to use it through to the end of HES 111 (April, 2027)

- Course textbook package (Recommended): Amerman, EC (2025) Human Anatomy & Physiology 3rd Edition with Mastering A&P. This is to be purchased through the UBC Okanagan bookstore and can be purchased as an e-text package.

- UBC Canvas will be used as the online learning management system for this course. Weekly learning, class notes, grades and course communication will be posted here. Dr Whitaker will use the announcements to communicate weekly with the class.

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 not permitted to use any type of AI to complete quizzes or lab activities. 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.

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Late Policy

All deadlines in this course are firm.

You must submit lab activities and lab quizzes by the posted due date. There are certain extenuating circumstances that will allow an extension of a lab quiz or lab activity. These are: illness, family emergency. Please reach out to your TA prior to the upcoming lab and the TA will work with Dr Whitaker to determine eligibility for extension on a case-by-case basis. Please note that the instructor will not make accommodations for work schedule or other extracurricular activities. These should be organized into your schedule such that you make time to complete your course requirements on time.

There will be NO extensions or omissions provided for weekly online review quizzes for any reason. The lowest quiz mark will be dropped at the end of term. This can account for an accidental miss and if you don't miss any, the lowest mark of all your completed quizzes will be dropped.

Missed Exam Policy

If you need to miss a midterm for an extenuating circumstance (temporary health issue or emergency), **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 schedule an alternate exam time. Please see the HES student policies (posted on HES 101 canvas course front page) for more detail. You can also find the self-declaration form linked on the MyHES canvas course (forms & policies).

If you need to miss the final exam for an extenuating circumstance (temporary health issue or emergency), you must apply for an **Out-of-Time exam** and provide valid documentation of the reason for the missed final exam. Please see our HES student policies for valid extenuating circumstances. *Please note that writing final exams early is not permitted unless under very exceptional circumstances and approved by the HES undergraduate curriculum committee.*

Missed Lab Policy:

Lab attendance is mandatory. There are certain extenuating circumstances that will allow for a missed lab. These are for example: temporary health issue, emergency, travel for university team sports. Please note that we 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, 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.

Both the lowest weekly 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. For example, if you forget to submit a quiz one week, this will be dropped (not counted toward your final grade). If you do not miss any, then your lowest mark will be dropped.

Passing/Grading 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, even if your total grade is above 50%, then your final grade will be 49%.

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Course Schedule

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).

	Lecture Topics	**Lab Activities**	**Aligned Learning Outcome (LO)**
Week 1 Sept 7 - 11	**Sept 7 Labour Day (NO CLASSES)** Intro to the course Core Principles in Anatomy & Physiology	No Labs	L01
Week 2 Sept 14 – 18	Molecular and Cellular Physiology I Molecular & Cellular Physiology II	Lab 1 – Intro to Physiology Labs, Cellular Physiology	L01, L02
Week 3 Sept 21 – 25	Histology: Introduction to Tissues Tissue Types, Membranes	Lab 2 – Tissue Types	L01 – L03
Week 4 Sept 28 – Oct 2	Skeletal System I **Sept 30 NDTR NO CLASSES**	No Labs	L03
Week 5 Oct 5 – Oct 9	Skeletal System II Midterm 1 Review	Lab 3 – Bone Physiology	L01 – L03
Week 6 Oct 12 – 16	**Oct 12 Thanksgiving NO CLASSES** **Oct 14 Midterm 1**	No Labs	L03, L04
Week 7 Oct 19 – 23	Neuromuscular Physiology I	Lab 4 – Skeletal Muscle Function	L03, L04
Week 8 Oct 26 – 30	Neuromuscular Physiology II	Lab 5 – Skeletal Muscle Function	L03, L04
Week 9 Nov 2 – 6	Neuromuscular Physiology III Midterm 2 Review	Lab 6 – Skeletal Muscle Function	L03, L04
Week 10 Nov 9 – 13	READING BREAK		
Week 11 Nov 16 – 20	**Midterm 2 Nov 16** Nervous System I	No Labs	L03, L04
Week 12 Nov 23 – 27	Nervous System II – CNS & PNS	Lab 7 – Reflexes and Reaction Times	L03, L04
Week 13 Nov 30 – Dec 4	Nervous System III – ANS, Special Senses	Lab 8 – Sensory Integration	L03, L04
Week 14 Dec 7 – 9	Nervous System IV – Special Senses Semester Review		
Dec 12 – 22	**Final Exam date TBA.** Final Exam Schedule will be posted to the following website mid-October. https://students.ok.ubc.ca/courses-money-enrolment/exams/		

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UBC Policies & Resources

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.

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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