KIN 131: Systems Physiology I
Winter 1 - 2020

UBC’s Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site.

General Course Information

Course Description: Structure and function of the skeletal system, muscular system, neuro-hormonal control, and endocrinology. Emphasis will be to develop an understanding of the integrative nature of the systems discussed.

Course Schedule: All course activities will be conducted fully online.

- We will meet as a class for a synchronous interactive session every Thursday from 8:00 to 9:30 am online via Zoom. These sessions will be run as Q&A sessions
- You will also meet to work together in smaller group sessions during your scheduled lab/tutorial sections.
- Readings, pre-recorded lectures/videos, and other learning activities will be made available to you online in Canvas for you to proceed as self-paced weekly modules.

Further details about the schedule and activities can be found below in the section Learning Activities.

Prerequisite(s): None
Corequisite(s): None

Instructor and Teaching Assistants

Course Instructor Dr Tania Lam (tania.lam@ubc.ca)
Teaching Assistant Gevorg Eginyan (geginyan@icord.org)
Course Communications

**General questions:** For any general questions about the course (e.g. What will be on the midterm? When will we get our quiz marks?), please post them to the [General Questions Discussion Board](mailto:general-questions-discussion-board) under the [General Course Information](mailto:general-course-information) module.

**Personal questions:** For any topics that relate only to you (e.g. if you want to review your marks, Access & Diversity questions), please send a direct email to me or your TA.

**Appointments:** You can ask for a one-to-one meeting with me or your TA any time during the term. Just send us a message.

Rationale

Physiology is the study of how cells work together to form tissues, how tissues work together to form organs, and how organs support the body. The study of human physiology is important as it establishes a foundation in the way our body’s function. With this understanding we can then build on our knowledge to undertake further study about how the nervous system controls our movements (KIN313, 411), how the body responds to exercise (KIN 235, 335, 438), to injury (KIN 420), and to the environment (KIN 424).

Learning Outcomes

By the end of this course, you should be able to:

- Describe the structure and main function of each of the following body systems: the muscular system; central and peripheral nervous system (including the autonomic nervous system); and endocrine system including regulation of skeletal growth.
- Describe the chemical structures and their functions, which are important to maintain living organisms.
- Explain how the functions and regulation of the various systems are integrated in the whole organism.
- Explain how these systems are regulated to control movement, response to exercise, as well as some of the pathological consequences of system failure.
Instructor Bio

Welcome to KIN 131! I am a professor in the School of Kinesiology and a Principal Investigator at the International Collaboration on Repair Discoveries (ICORD), which is a research centre focused on spinal cord injury. My background is physical therapy and neuroscience, and my research covers both mechanistic and applied clinical research in the neural control of walking, interested in the sensorimotor control of movement, the effect of exercise on neuroplasticity, and strategies to enhance physical activity opportunities for individuals with spinal cord injury. More recently, I have been working on new studies to understand how we can use exercise interventions to help improve urinary function in people with spinal cord injury.

https://kin.educ.ubc.ca/dr-tania-lam-on-helping-people-walk-again/  
http://blogs.ubc.ca/lamlab/  

TA Bios

Jordan Stevenson

Hi everyone! My name is Jordan and I'll be one of your TA's this semester. I am a masters student in the Exercise and Metabolism Lab under Dr. Cameron Mitchell, and I am currently studying how acute collagen synthesis within muscle is affected by feeding and exercise. I am from a town just outside of Toronto and finished my undergrad at McMaster University. Throughout my university career I've had an interest in human performance and have had several opportunities working with different strength and
conditioning programs including McMaster, Yale, and UBC. If strength and conditioning is an interest of yours, please reach out! I’m looking forward to being one of your TA’s this semester. If you ever have any questions, please reach out!

Gevorg Eginyan

Hi KIN 131! I am a second-year master’s student in Dr. Tania Lam’s research lab. Originally starting at UBC as an international student, I’ve gone through the journey of completing my bachelor’s degree in Kinesiology to working for couple of years doing research in the field of spinal cord injury rehabilitation and to now pursuing my master’s degree. My masters work focuses on understanding how electrical stimulation of the nerve around the ankle, called posterior tibial nerve, can help manage urinary incontinence in people. I am extremely excited to work with you throughout this term as for many of you this is going to be your first intro to physiology. I am always available to answer any questions that you might have either about this course or the Kinesiology program in general.

Learning Materials

**Required Textbook:** Vander’s Human Physiology, 15th Edition

There are two options for the textbook:

- **ISBN: 9781264167777** – This gives you online access to the eBook and SmartBook version of the text, along with access to the McGraw-Hill Connect site, which contains many of the required course activities (see Course Assessment section below). This option gives you access for 180 days to this resource. (Note that the same textbook is required for KIN 132)

- **ISBN: 9781264167760** – This gives you all the online access (same as above) + a printed copy (in loose-leaf, binder-ready form)

Learning Activities
All of your learning activities will take place online here in the Canvas platform, as well as the Connect platform connected to the Vander's textbook. Most of your learning in this course will be 'asynchronous', where you will go through the course content on your own through different materials I assign to you online. These will include textbook (SmartBook) readings, video clips (sometimes of me, sometimes to other people’s video recordings), tutorial/lab assignments, and weekly quizzes. You will be going, at some extent, at your own pace, but as you will see, there will be deadlines for you to complete each module and I have set this up to support your success in this course.

We will meet as a class in 'synchronous' sessions once a week, on Thursdays (8:00 - 9:30 AM). My goal for the Thursday sessions is to go over the week’s content that you had difficulty with and for general Q&A sessions.

You will also have the opportunity to work together in smaller group sessions during your scheduled lab/tutorial time. Each week, you will be split up into smaller groups of 4-5 students within your tutorial/lab section and have a chance to meet in Zoom break-out rooms. This hopefully will provide you with a less-intimidating environment to discuss the course material, and also give you a chance to meet different people each week. Your TA will circulate among the breakout rooms in the first part of the tutorial session and then will gather everyone back into the main Zoom room to sum-up the tutorial.

Zoom

Synchronous sessions will be held every Thursday morning from 8 to 9:30 AM on Zoom.

These sessions will target the course content that students tended to have difficulty with that week, as indicated by your LearnSmart reading assignments and the weekly Muddiest Point(s) Discussion Board. Of course, if any other questions come up during the session, feel free to raise your virtual hand or send a private chat to the TA. The open chat function on Zoom will be disabled to reduce disruptions.

Discussion Boards

I have set several discussion boards to facilitate our communication within this course. *Chances are, if you have a question about the course material or class, other students do too!*  

**General Questions Discussion Board** - please use this board to ask general questions about the course.

**Muddiest Point(s) Discussion Board** - There is one of these boards for each week. Please use this board to let me know what topics you would like me to review during the Thursday live session. If someone has already posted the same question you have, please 'like' it to up-vote the topic so that I will know how to prioritize the content on Thursdays.
## Assessment

<table>
<thead>
<tr>
<th>Assessment</th>
<th>% of Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Participation</strong></td>
<td></td>
</tr>
<tr>
<td>• completing the pre-tutorial/pre-lab assignments (12%)</td>
<td>25%</td>
</tr>
<tr>
<td>• completing the LearnSmart Vander’s textbook readings (13%)</td>
<td></td>
</tr>
<tr>
<td><strong>Virtual Lab - Lab Reports</strong></td>
<td>20%</td>
</tr>
<tr>
<td>(4 virtual labs, 5% each)</td>
<td></td>
</tr>
<tr>
<td><strong>Weekly Quizzes (best 10 out of 11)</strong></td>
<td>30%</td>
</tr>
<tr>
<td><strong>Final Exam</strong></td>
<td>25%</td>
</tr>
</tbody>
</table>

**Course Participation** marks are designed to help you keep up with the material in this course.

During the term, we will provide you with **4 Virtual Labs** where you will observe a recording of a lab demonstration and then provided with the data and a lab assignment. These assignments will be worth 5% each, for a total of 20%.

The **Weekly Quizzes** will be every Monday covering the previous week’s topic. The quiz will be available from 8 AM to 12 PM (PST) and consist of different styles of questions (e.g. multiple choice, short-answer, labelling, fill-in-the-blanks, multiple answer, and true/false questions). Your best 10 out of 11 quizzes will be used towards your final grade.

The **Final Exam** will be cumulative, and scheduled during the UBC Final Exam period (Dec 7-22, inclusive). The final exam schedule is determined by the Registrar's office and is usually announced in October, so please do not make any other commitments that could interfere with your final exams until the final exam schedule comes out.

### Policy on Grading Practices
Graded work in this course constitutes the weekly quizzes, lab assignments, final exam, and course participation. Students must complete the quizzes and final exam on the scheduled date and submit their lab assignments by the scheduled deadline. Course participation marks are awarded for work that is submitted on time. Students who miss any of these evaluations due to unauthorized absence will receive a grade of zero. Students who cannot complete the graded work due to an **authorized absence** will write a make-up test on a date to be determined in consultation with the instructor.

**Authorized Absences:** Students who know in advance that they will be unavoidably absent should appeal for special accommodation from the instructor as early in the term as possible to determine how any missed graded work will be completed. The School of Kinesiology will not normally consider special accommodation without timely notification. **A minimum of two weeks notification is expected and documentation will be required.**

Where prior notification of absence from graded work is not possible (e.g. due to unforeseen illness or family crisis), students should contact the instructor as soon as possible upon their return to class. Supportive documentation, submitted to the Undergraduate Advising Centre, will be requested.

Students who miss the final examination in December MUST apply to the Undergraduate Advising Office at the earliest possible date to request consideration for Academic Concession. Students will be asked to complete an Academic Concession Form and provide supportive documentation. Academic Concession is a privilege, not a right, and can be granted only by the Undergraduate Advising Office.

Students who plan to be absent from graded work for varsity athletics, family obligations, or other similar commitments, cannot assume they will be accommodated, and should discuss their commitments with the instructor before the official course drop date.

The University accommodates students with disabilities who have registered with Access & Diversity. Students whose attendance or academic performance may be severely affected by medical, emotional, or other disabilities should consult with the instructor at least 2 weeks before scheduled tests or exams to discuss any special accommodations that might be needed in order to complete course requirements. Supportive documentation from either Access & Diversity or a physician will be required by the Undergraduate Advising Office.

The University accommodates students whose religious obligations conflict with attendance or scheduled tests and examinations. Any accommodations should be communicated to the course instructor, preferably in the first week of class.

**Course Schedule**

Please see the [Overview and Weekly Schedule](#) page for a detailed outline.
Additional Materials

Online Communications

In this course, and throughout your program, you are expected to communicate in a respectful and professional manner. Although it is unlikely we will have the chance to meet face-to-face in a lecture hall on campus, this space should be considered an extension of the physical classroom, with the same expectations regarding respect and consideration for your fellow learners, teaching assistants, and instructors.

Please ensure you review and are familiar with the Student Guidelines for Respectful Online Conduct (https://equity.ubc.ca/resources/student-guidelines-for-respectful-online-conduct/%C2%A0) from the UBC Equity & Inclusion Office.

You may also find it helpful to review UBC’s Distance Learning Communication Online: Netiquette (https://distancelearning.ubc.ca/learner-support/communicating-online-netiquette/) web page.

If you experience any issues with the online space, please do reach out to me (mailto:%20tania.lam@ubc.ca) for support.

Your Presence in the Virtual Classroom

Peripheral Electronic Devices: It might be tempting to check your phone, chats, social media, newsfeeds, or other websites while you are in a synchronous session. I admit to being guilty of such behaviour myself during virtual meetings or seminars, so I can understand the temptation! After all, no one can see what you are doing, unlike in a physical setting. However, if you want to make the most of your learning opportunities, I recommend that when you sign into Canvas, you reserve that time to dedicate your focus to the course.

Video On or Off?: To promote a sense of community in our virtual classroom, my preference is for you to keep your video on during our live, synchronous sessions. However, I understand that is not always possible for different reasons and you are by no means obligated to do so. Nevertheless, if you are comfortable doing so, I very much welcome the chance to ‘meet’ you virtually during our live sessions!

The Case for Analog: I also recommend that even though you are learning online, you have a paper and pen beside you to take your notes, whether you are reviewing a paper or viewing one of the lectures. The action of putting pen to paper promotes a more active form of learning compared to keyboard typing, which tends to be automated. If you are interested in some evidence to support this, I can refer you to this paper (https://courses.library.ubc.ca/get/course/147620/hash/1.84cRfx).
Your Wellbeing

We are living through an extraordinary time and each of us is facing new and unique challenges and circumstances. Your safety and wellbeing are paramount. Please know that there are multiple resources available to you, including your instructor. UBC’s Keep Learning site (https://keeplearning.ubc.ca/self-care) is also an excellent resource for you.

Course Policies

Please make sure you are familiar with the academic policies and procedures.

Academic Integrity

Students are expected to follow UBC policies for academic integrity and academic misconduct, which includes practices around plagiarism, referencing and citation, and copyright. For more see, UBC’s Learning Commons Academic Integrity resources (https://learningcommons.ubc.ca/academic-integrity).

Accessibility

If you have any challenges accessing materials that will impact your success in this course, UBC’s Centre for Accessibility can support your needs by providing appropriate accommodations to support you.

- Web: UBC’s Centre for Accessibility website (https://students.ubc.ca/about-student-services/centre-for-accessibility)
- Email: accessibility@ubc.ca (mailto:accessibility@ubc.ca)

Learning Analytics

Some of the learning technologies used for this course collect data to support the improvement of teaching and learning. This includes the collection of data related to overall class progress to provide personalized feedback, engagement in discussion forums to support the fostering of community within the course, and how resources are being accessed to support improvements to the course design. To learn more about learning analytics at the Faculty of Education and at UBC, see the What is Learning Analytics? (https://ets.educ.ubc.ca/learning-analytics/students/) page.

University Policies

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic
community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available from the UBC Senate Website. 

Statement regarding online learning for international students

During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0 for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: https://academic.ubc.ca/support-resources/freedom-expression.

Version History and Course improvements

| v1 | author: Tania Lam | Fall 2020 |

Note: If you would like a printed version of this course syllabus, you can print it from your browser.

Help Resources

- New to Learning Online? Review the Faculty of Education's eLearning Help & Resources.