COURSE INFORMATION

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Code Number</th>
<th>Credit Value</th>
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<tr>
<td>Advanced Applications of Exercise Physiology</td>
<td>KIN 335 (Formerly 375)</td>
<td>3</td>
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Time: Tuesday and Thursday, 8:00 – 9:30 AM
Mode of Delivery: In-Person
Requires In-Person Attendance: Yes
Class Location: West Mall Swing Space rm. 121

CONTACT

<table>
<thead>
<tr>
<th>Course Instructor(s)</th>
<th>Contact Details</th>
<th>Office Location</th>
<th>Office Hours</th>
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<tbody>
<tr>
<td>Bill Sheel, PhD</td>
<td><a href="mailto:bill.sheel@ubc.ca">bill.sheel@ubc.ca</a></td>
<td>Chan Gunn Pavilion, 221B</td>
<td>• Immediately following class</td>
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<td>• By appointment</td>
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<td>• Zoom</td>
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Office hours: I am always happy to meet and discuss course content. This can often be done immediately before or after a lecture. In the event that does not agree with your schedule please speak to me to make an appointment for a ‘zoom’ or in-person meeting. *Please note: if you have a question please feel free to ask during class – I will be pleased to answer. It is likely that another student will benefit from your question.

Email: attempting to teach or explain complex material over e-mail can be difficult and is sometimes ineffective. **If you have detailed questions about course material or concepts, those questions should be addressed in class, in person or a scheduled meeting.**

Please seek clarification on course material in class, during breaks, after class, or during office hours with the instructor or teaching assistant.

E-mail should be used for: items of clarification, scheduling a time to meet during office hours, in cases of emergency that may cause you to miss an exam, or situations otherwise detailed in class.

It may take up to 48 hours to respond to your email during the week and **I do not check my email on weekends**, nor will your teaching assistants. Please keep this in mind around exam time.

Please include “KIN 335” in the subject line of emails and use your UBC email address.
OTHER INSTRUCTIONAL STAFF

Teaching Assistants: (i) Mick Leahy mick.leahy@ubc.ca  (ii) Ethan Schmitt ethands6@student.ubc.ca

COURSE DESCRIPTION

This course focuses on the application of our understanding of the regulation and integration of the neural, metabolic, cardiovascular and respiratory systems during exercise. The transport and utilization of O₂ during exercise in humans is a primary focus. Applied examples are presented to better understanding the physiological changes that accompany exercise.

Emphasis is placed on understanding foundational physiology knowledge and applying it to conditions of exercise.

Third year standing is a prerequisite.

COURSE STRUCTURE

The course includes; lectures, labs, in-class discussions and tutorials.

Canvas: Information about this course, additional readings, lecture slides, and important reminders will be made available on the course website. This information can be accessed on Canvas, so please check the site regularly. You are responsible for the information posted to Canvas.


You should attend all lectures. You are required to attend all three labs. You are responsible for all material covered in class and any information given whether in attendance or not. You are also responsible for getting your own notes from class, as well as information pertaining to changes in the course outline, readings, assignments, and information related to labs or exams. If you will not be in class you must email BEFORE any assessment takes place to notify us of your absence, and then provide documentation to the instructor.

To avoid any confusion please consult the UBC Academic Calendar to review UBC’s policies: “It is a student’s responsibility to arrange their scheduled non-academic activities to the best of their ability in a manner that enables full attendance and participation in their courses and programs, including required practica and internships.”
SCHEDULE OF TOPICS

Sept 6. Imagine Day. No class.
Sept 8. Intro, “the course” in a nutshell
Sept 13. Exercise metabolism. Text Ch. 6
Sept 15. Exercise metabolism. Text Ch. 6
Sept 22. Training to improve O₂ delivery and utilization. Text Ch. 21
Sept 27. High intensity interval training (HIIT). Readings to be distributed
Sept 29. High intensity interval training (HIIT). Readings to be distributed

(Sept 30. UBC Closed. National Day for Truth and Reconciliation)

Oct 4. Cardiovascular review. Text Ch. 15, 16, 17

(Oct 10. UBC Closed. Thanksgiving Day)

Oct. 11. In-class review for midterm.

Oct. 13. MIDTERM EXAMINATION. In class.

Oct. 18. How does blood know where to go during exercise? Readings to be distributed
Oct. 20. Pulmonary physiology review. Text Ch. 12, 13, 14
Oct. 25. High-altitude physiology. Text Ch. 24
Oct. 27. In-class debate. Live-high, train-low for sea-level performance. Readings to be distributed

Nov. 1. Ergogenic aids. Text Ch. 23. Readings to be distributed
Nov. 3. Ergogenic aids. Text Ch. 23. Readings to be distributed
Nov. 8. Thermoregulation. Text Ch. 24. Readings to be distributed
Nov. 10. No class. Midterm break (Nov. 9-11 inclusive)

(Nov 11. UBC Closed. Remembrance Day)

Nov. 15. Sex-differences and similarities in the physiology of exercise
Nov. 17. Exercise & pregnancy. Readings to be distributed
Nov. 22. Aging. Text Ch. 31. Readings to be distributed
Nov. 24. Controversy: is maximal O₂ uptake always “trainable”? Readings to be distributed
Nov. 29. Too little and too much exercise: cardiac and cardiovascular consequences

Dec. 1. No class
Dec. 6. Final exam review

Dec 11-22, inclusive. Final Exam Period. DO NOT SCHEDULE TRAVEL DURING THIS TIME.
LABORATORIES

Lab 1. Week of Sept 19th. High-intensity interval training (HIIT)
Lab 2. Week of Oct 24th. Physiological effects of hypoxia
Lab 3. Week of Nov 21st. Thermoregulation

Lab manuals and evaluation criteria will be posted on Canvas.

Labs will be held in Gym G (room 125) of the Kinesiology Learning Centre (Osborne Unit 2). Each laboratory group will be split into smaller groups to complete the lab tasks (these groups will remain the same for the duration of the course).

Student responsibilities

1. Arrive at your specified lab on time, ideally a couple of minutes early.
2. Read the lab manual and complete all pre-reading before arriving at the laboratory. The lab sessions are intense and require significant focus from testers and participants. If you come unprepared and not familiar with the methods, you will compromise your group’s ability to complete the protocols.
3. Every student is expected to attend every laboratory and be appropriately dressed for exercise. Every lab involves some practical component that will require at least one group member to undergo assessment.
4. Every student is expected to participate fully as either a tester or a participant.
5. Work out a schedule of who is doing what tests in advance. When you arrive if there are things you can be doing (i.e. getting weight, height, etc.), start performing these and the TA will give specific instructions if necessary.
6. Do not bring food or drinks into the lab area. If you are going to move equipment around please ask the TA first (some equipment is sensitive to being moved).
7. When you are done with equipment please return to the original location, wipe the equipment down with disinfectant (as necessary), place anything that has come into contact with blood into the red sharps container (as necessary), and place used equipment (e.g., breathing masks, heart rate monitors) in washbasin as directed.

ASSESSMENTS OF LEARNING

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<tr>
<th>Assessment</th>
<th>Weight</th>
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<tr>
<td>Laboratory</td>
<td>30%</td>
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<tr>
<td>Midterm Examination</td>
<td>30%</td>
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<tr>
<td>Final Examination</td>
<td>40%</td>
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** The final examination is cumulative with a greater emphasis on material after the midterm. Content from the laboratory portion of the course is examinable.
University Policies

**Resources to Support Student Success:** 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.

**Academic Accommodation for Students with Disabilities:** The University's goal is to ensure fair and consistent treatment of all students, including students with a disability, in accordance with their distinct needs and in a manner consistent with academic principles. Students with a disability who wish to have an academic accommodation should contact Centre for Accessibility without delay.

**Academic Integrity:** All UBC students are expected to behave as honest and responsible members of an academic community of higher learning and research. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action. It is your responsibility, as the student, to become familiar with and understand the consequences of violating the University of British Columbia’s:

- Academic Honesty and Plagiarism Policies
- Student Declaration
- Student Conduct during Examinations
- Any special rules for conduct set out by the course instructor or teaching assistants.

**Online Communications:** You are expected to communicate in a respectful and professional manner with your fellow students, teaching assistants, and instructors. Please ensure you review and are familiar with the Student Guidelines for Respectful Online Conduct from the UBC Equity & Inclusion Office.

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