

Western HealthSciences

School of Kinesiology

KIN 3330F – Laboratory in Exercise Physiology Fall 2025

Campus Supports




Western University is committed to a **thriving campus**. For help with:

- Both physical and mental health, go to [Wellness & Wellbeing](#)
- Studying with disabilities, go to [Accessible Education](#)
- Writing skills, go to the [Writing Support Centre](#)
- Learning skills and strategies, go to [Learning Development & Success](#)
- Contacting the ombudsperson, go to the [Office of the Ombudsperson](#)



Your course coordinator can also **guide you** to available campus resources and/or services.

Technical Requirements

-  Stable internet connection  Laptop computer  Calculator

Important Dates

Classes Begin	Reading Week	Classes End	Study day(s)	Exam Period
September 4	November 3–9	December 9	December 10	December 11–22

September 30, 2025, is National Day for Truth and Reconciliation and is a non-instructional day

December 1, 2025: Last day to withdraw from a first-term half course without academic penalty

Contact Information

Course Coordinator/instructor	Contact Information	Office Hours
Daniel Keir	dkeir@uwo.ca	TBA
Mike Herbert	mherber5@uwo.ca	TBA

Teaching Assistant(s)	Contact Information	Office Hours

NOTE: All course information including grades, assignment outlines, deadlines, etc. are available via [OWL Brightspace](#). Download the Brightspace Pulse App to stay up-to-date on course communication and enable your notification settings within “Communications” in the top toolbar. Check the website regularly for course announcements. If you need assistance, visit [OWL](#)

[Brightspace Help](#) or contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

Calendar Course Description (including prerequisites/anti-requisites):

This course focuses on experiments designed to highlight the physiological response to exercise and to introduce basic techniques for fitness evaluation.

Prerequisite(s): [Kinesiology 2230A/B](#). Priority to BSc Honours Specialization Kinesiology students. **Corequisite(s):** [Kinesiology 3337A/B](#).

Extra Information: 2 lecture hours, 2 laboratory hours.

*Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites. **NOTE: If you wish to enroll in this course without the stated pre-requisite(s), you must obtain written approval from the course instructor. The approval should then be forwarded to your academic counsellor.***

Delivery Mode: In-person

Component	Date(s)	Time
Lecture – Room FNB-1240	Tuesday	8:30 am to 10:30 am
Labs – Room TH-3103	002 - Thursday	10:30 am to 12:30 pm
	003 - Thursday	12:30 pm to 2:30 pm
	004 - Thursday	2:30 pm to 4:30 pm
	005 - Wednesday	4:30 pm to 6:30 pm

My Course Description

The most important requirement for exercise performance is the transport of oxygen (O₂) to support the bioenergetic processes in muscle cells and elimination of carbon dioxide (CO₂) formed as a by-product of muscle metabolism. Thus, an appropriate respiratory and cardiovascular response is necessary to meet the demands imposed by increases in muscle metabolism. This course will explore the use of non-invasive (respiratory gas exchange) and minimally invasive (blood sampling) techniques and specialized exercise testing to provide an experiential and mechanistic basis for: i) understanding integrative responses to exercise at different intensities; ii) evaluation of fitness and performance; iii) exercise prescription; and iv) development of effective exercise interventions in research and practical (e.g., exercise training) settings.

Laboratory protocols will allow students to collect, analyze, and interpret exercise test data, correctly evaluate aerobic fitness, (e.g., maximal O₂ uptake, O₂ uptake kinetics, lactate threshold, critical power), recognize normal intensity-dependent physiological response profiles (blood lactate and gas exchange responses), and accurately prescribe aerobic and anaerobic exercise. Lab data and protocols will be written-up and submitted as a “manuscript-style” lab report. Students will receive feedback on written work to allow them to develop their scientific writing skills.

Learning Outcomes

By the end of the course, students should be able to:

1. Utilize common exercise physiology laboratory equipment (cycle ergometers; gas mixing chambers) and techniques (respired gas exchange; blood sampling) to monitor and assess

physiological and metabolic responses to exercise.

2. Understand how these physiological and metabolic responses change at different intensities of exercise.
3. Collect, analyze, and interpret exercise test data to correctly evaluate aerobic and anaerobic or muscular fitness.
4. Use incremental exercise to identify exercise thresholds and explain the underlying physiological mechanisms that produce those thresholds.
5. Apply exercise testing and exercise prescription to elicit targeted physiological and metabolic responses to exercise (i.e., accurately control exercise intensity).
6. Perform scientific literature searches and reviews.
7. Communicate scientific information in a written report – i.e., describe and report data and findings collected in a laboratory setting and explain and compare these responses using information (i.e., data, ideas) from the published literature.

Course Content and Schedule

Lecture

The following is a tentative schedule of content. Topics and the specific weeks on which they are delivered may change. The first lecture will be on Tuesday September 9th.

Lecture Week	Date	Lecture Topic
1	Sep 9	Course intro & "Preparing a scientific manuscript I"
2	Sep 16	Exercise intensity, duration, and energy systems
3	Sep 23	Critical power
4	Sep 30	Blood lactate (asynchronous – non-instructional day)
5	Oct 7	Exercise thresholds
6	Oct 14	Oxygen uptake kinetics
6	TBD	EXAM 1 (outside class time)
7	Oct 21	Aerobic exercise prescription
8	Oct 28	Laboratory determinants of performance
9		READING WEEK
10	Nov 11	EXAM 2 (in class)
11	Nov 18	Preparing a scientific manuscript II
12	Nov 25	Special topic related to scientific manuscript
13	Dec 2	Research presentations from laboratories in the School of Kinesiology

Lab

Each lab runs for 1 or 2 weeks as indicated in the Table below. You attend one lab every week. Lab section numbers correspond to the day and time in which the lab sessions will take place.

Appropriate dress (gym wear) is required for all labs. Please come to each lab prepared to exercise. Data collected in your lab will be needed to complete each of the lab assignments and the manuscript assignment.

Labs begin the week of September 15th. Note also that reading week occurs within Week 9, therefore it is not listed in the dates below.

Date	Lab Topic
Weeks 2 & 3	Protocol 1: Critical power
Week 4	Protocol 2: Blood lactate
Week 5	Protocol 3: Exercise thresholds
Week 7	Protocol 4: Oxygen uptake kinetics
Weeks 8 and 9	Protocol 5: Exercise economy

Week 10	Statistics tutorial and data analysis workshop
Week 11	Writing workshop
Week 12	Open Q & A

Notes:

1. All lecture and laboratory materials will be posted on OWL.
2. We will attempt to cover all material as indicated above but it is possible that we might not complete all the material listed, that additional material may be added, or the order of lectures will be reorganized.
3. Attendance of lectures is highly recommended. For most lectures, slides will be the primary source of material, but additional material may be included.
4. Laboratory sections have been determined well in advance. Legitimate excuses for missing or re-scheduling labs include illness, compassionate circumstances, etc. Extended vacations, extra work, etc. do not qualify (see course policies below).
5. Exam periods have been selected to conflict as little as possible with other scheduled classes. Please report any potential conflicts **NOW**, do not wait until the week before the exam.

Assessments and Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Assessment	Format	Weight	Due Date	Flexibility	Learning Outcome
Quizzes	Mixed format	10%	TBA	Drop lowest 1 ¹	All
Midterm Test 1	Mixed format	25%	TBA	Not applicable - Designated Assessment ²	1 - 5
Midterm Test 2	Mixed format	25%	TBA	Not applicable	1 - 5
Mini-Report #1	Essay	5%	TBA	Not applicable ³	6, 7
Mini-Report #2	Essay	5%	TBA	Not applicable ³	All
Manuscript	Essay	30%	TBA	Not applicable ³	All

Notes:

1. This course has 5 quizzes. The 4 quizzes with the highest marks will be counted towards your final grade. Academic consideration requests will be denied for the first missed quiz. Academic Consideration requests may be granted when students miss more than 1 quiz. These additional missed quizzes will be offered in an alternative format.
2. Designated Assessment: This assessment has been designated as being central to the evaluation of learning outcomes in this course. Accordingly, students must provide documentation for any absence from this evaluation. If you miss Midterm 1, you must complete the makeup assessment that will be scheduled on a separate date. The makeup assessment is an extension of the Midterm Test, and so you will need to present documentation for this assessment, should you need to miss it. Please note that there is only one makeup assessment for both midterms. Students approved to miss the makeup will have the weight of this assessment transferred to the other midterm assessment. Students must not provide medical or compassionate documentation to the instructor.
3. Students are expected to submit these assignments by the deadline listed. Should extenuating circumstances arise, students are permitted to submit their assignment up to 24 hours past the deadline without a late penalty. No Academic Consideration is required for this extension. Students submitting their assessment beyond the extended deadline will receive a penalty of 1% per hour that it is late. Academic Consideration requests may be granted only for extenuating circumstances that began before the deadline and lasted longer than the extension. Students must not provide medical or compassionate documentation to the instructor.

General information about assessments

- All assignments are due at 23:59 EST unless otherwise specified
- Students are responsible for ensuring that the correct file version is uploaded; incorrect submissions including corrupt files could be subject to late penalties (see below) or a 0
- Written assignments will be submitted to Turnitin (statement in policies below)
- A student might not receive the same grade as their group members if it is determined that the distribution of work was not equal
- After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days

- ✓ Prior to the filing of a written request for relief, students must attempt to resolve the concern regarding a mark or grade through informal consultation with the instructor. If the student is dissatisfied with the decision of the instructor or does not receive a decision from the instructor, a written request for relief must be submitted to the Undergraduate Chair of the School offering this course, within three (3) weeks from the date that the mark was issued.

The table below outlines University-wide grade descriptors.

Letter grade	Number grade	Description
A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Rounding of Grades (for example, bumping a 79 to 80%)

This is a practice some students request. The final grade documented is the grade that you have achieved. There is no rounding to the next grade level, or 'giving away' of marks. Please don't ask me to do this for you; the response will be "please review the course outline where this is presented".

Information about late or missed assessments:

- ✓ Late assessments without academic consideration will be subject to a late penalty of 1% per hour
- ✓ Students who miss a lab are unable to attend alternate lab times and must simply get caught up on the material they missed. Missing a lab does not excuse you from missing an assignment deadline (unless the deadline is included in the accommodation). The laboratories within this course are designed to provide our students with the opportunity to apply concepts discussed in lecture. It is essential that all students enrolled in this course attend and engage in laboratory content, in real time. **Those who miss more than 1 laboratory without approved academic consideration/accommodation, will be debarred from writing the final examination and will receive an F for this course on their transcript.**

Course-specific conditions:

- ✓ You must attend all scheduled laboratories or provide proof of academic considerations for laboratory absences. Students who miss a lab without approved academic considerations will receive a zero on that lab. Students who received approved consideration for a missed lab will have that lab mark distributed across all remaining labs.

INC (Incomplete Standing): If a student has been approved by the Academic Advising Office (in consultation with the instructor/department) to complete term work at a later date, an INC will be assigned. Students with INC will have their course load in subsequent terms reduced to allow them to complete outstanding course work. Students may request permission from Academic Advising to carry a full course load for the term the incomplete course work is scheduled.

SPC (Special examination): If a student has been approved by the Academic Advising Office to write a Special Examination and the final exam is the only outstanding course component, an SPC will be assigned. If the class has a makeup exam, the student is expected to write the makeup exam. If the class doesn't have a makeup exam or the student misses the makeup exam for

reasons approved by the Academic Advising Office, the student will write the exam the next time the course is offered. Outstanding SPCs will reduce the course load for the term the exam is deferred as outlined in [Types of Examinations](#) policy

Academic Policies and Statements

Support Services

There are various support services around campus and these include, but are not limited to:

1. Academic Support and Engagement - <http://academicsupport.uwo.ca>
2. Wellness and Well-being - <https://www.uwo.ca/health/>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>

The websites for Registrarial Services (<http://www.registrar.uwo.ca>), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: <http://westernusc.ca/services/>) and the Student Development Services, should be provided for easy access.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://www.uwo.ca/health/>) for a complete list of options about how to obtain help.

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

Statement on Harassment and Discrimination

Western is committed to providing a learning and working environment that is free of harassment and discrimination. All students, staff, and faculty have a role in this commitment and have a responsibility to ensure and promote a safe and respectful learning and working environment. Relevant policies include Western's Non-Discrimination/Harassment Policy (M.A.P.P. 1.35) and Non-Discrimination/Harassment Policy – Administrative Procedures (M.A.P.P. 1.35). Any student, staff, or faculty member who experiences or witnesses' behaviour that may be harassment or discrimination **must report the behaviour** to the Western's Human Rights Office. Harassment and discrimination can be human rights-based, which is also known as EDI-based, (sexism, racism, transphobia, homophobia, islamophobia, xenophobia, antisemitism, and ableism) or non-human rights-based (personal harassment or workplace harassment).

Student Code of Conduct

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at Western University, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed and set out the disciplinary procedures that the University will follow. For more information, visit <https://www.uwo.ca/univsec/pdf/board/code.pdf>

Absence from Course Commitments

Students must familiarize themselves with the Policy on [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the [central academic consideration portal](#). Students are permitted one academic consideration request per course per term **without** supporting documentation. Note that supporting documentation is **always** required for academic

consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes), when there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period), or when timed assessments (e.g., quizzes) are available over an extended period of time (e.g., when you are given a 72 hour time period to start – and finish – the assessment).

Please note that academic considerations in this course are granted by the academic advisors in your home unit and implemented by the instructor of this course in accordance with information presented in this course syllabus. Supporting documentation for academic considerations for absences due to illness should use the [Student Medical Certificate](#) or, where that is not possible, equivalent documentation by a health care practitioner. If your absence relates to accommodations that are already supported by [Accessible Education](#), please work with your accessible education counsellor regarding your missed course work.

Accommodation for Religious Holidays

Students should review the policy for [Accommodation for Religious Holidays](#). Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examination dates. The Faculty of Health Sciences has set School-specific dates for these Special Examinations. Please speak with your instructor about the date on which the Special Examination for this course will be held.

Scholastic Offences

Scholastic offences are taken seriously and students are directed to read the policy on [Scholastic Discipline for Undergraduate Students](#).

Plagiarism

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to a zero on the assignment in question, a zero in this course, or your expulsion from the university. You are plagiarizing if you insert a phrase, sentence or paragraph taken directly from another author without acknowledging that the work belongs to him/her. Similarly, you are plagiarizing if you paraphrase or summarize another author's ideas without acknowledging that the ideas belong to someone else. All papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western University and Turnitin.com (www.turnitin.com).

Use of Artificial Intelligence for the Completion of Course Work

Within this course, you may only use artificial intelligence tools (e.g., “ChatGPT”) in ways that are specifically authorized by the course instructor. All submitted work must reflect your own thoughts and independent written work.

Re-submission of Previously Graded Material

Without the explicit written permission of the instructor, you may not submit any academic work for which credit has been obtained previously, or for which credit is being sought, in another course or program of study in the University or elsewhere.

Use of Statistical Pattern Recognition on Multiple Choice Exams

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#). If you think you may qualify for ongoing accommodation (e.g. separate room to write exams, flexibility with deadlines, etc.) that will be recognized in all your courses, we encourage you to visit [Accessible Education](#) for more information.

Correspondence Statement

The centrally administered e-mail account provided to students will be considered the individual’s official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. Students are further expected to attend to announcements presented through Brightspace, and to read emails generated in this way.

Use of Electronic Devices

During Exams

Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any electronic devices (e.g., cell phones, tablets, cameras, smart glass, smart watches, or iPods) during ANY tests, quizzes, midterms, examinations, or other in-class evaluations. **These devices MUST either be left at home or with your belongings at the front of the room. They MUST NOT be at your test/exam desk or in your pocket. Any student found with a prohibited device will be referred for investigation of a Scholastic Offence, per the policy listed above. The typical first-offence penalty for possession of a prohibited device is zero on the test or exam.**

During Lectures and Tutorials

Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. From time to time, your professor may ask the class to turn off all computers, to facilitate learning or discussion of the material presented in a particular class.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any

purposes other than your own educational use contravenes Canadian Copyright Laws. Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.

Contingency Plan for an In-Person Class Pivoting to 100% Online Learning

In the event of a situation that requires this course to pivot to online content delivery, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on Brightspace for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.

Online Proctoring

Tests and examinations in this course may be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>.

Academic Appeals and Scholastic Offences

Students can file a **request for relief from academic decisions** if the request is based on one or more grounds listed in the policy. Students can read more about the policy [here](#) and a link to the procedures is listed in the Support Services sections of this document.

Students may **appeal** some academic and scholastic disciplinary decisions by a Dean or their designate, to the Senate Review Board Academic (SRBA). Students can read more about the policy [here](#) and a link to the procedures is listed in the Support Services section of this document.