

Department of Physiology and Pharmacology
Phys/Pharm 4980E

Course Syllabus for Fall/Winter 2023



Western University is committed to a **thriving campus**; therefore, your health and wellness matter to us! The following link provides information about the resources available on and off campus to support students: <https://www.uwo.ca/health/>. Your course coordinator can also **guide you** to resources and/or services should you need them.

1. Technical Requirements



Stable internet connection



Laptop or computer

2. Important Dates

This course has 2 components to it: workshops and a research project. Workshops will guide you through important skills that you will need to be successful in your research project including best practices for communication, data analysis, scientific literacy among others. Your course coordinator will be responsible for most course workshops. Your research project will be supervised by a faculty member and/or designated sponsor or trainee in the lab. You will be matched with a lab supervisor in September and begin your lab work as soon as you are placed. For lab expectations, please discuss this with your supervisor at your first meeting.



Classes Begin	Reading Week	Classes End	Study day(s)	Exam Period
September 7	October 30 – November 5	December 8	December 9	December 10–22

* November 30, 2022: Last day to drop a first-term full course without penalty

Classes Resume	Reading Week	Classes End	Study day(s)	Exam Period
January 8	February 17-25	April 8	April 9-10	April 11–30

3. Contact Information



Course Coordinator	Contact Information
Dr. Zachary Easton	zeaston@uwo.ca

Instructor(s) or Teaching Assistant(s)	Contact Information
Ryan Armstrong	rarmst42@uwo.ca
Mary Taylor	mtayl84@uwo.ca

4. Course Description and Design

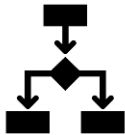
Delivery Mode: in-person

A major laboratory project in Physiology or Pharmacology, which emphasizes experimental design, instrumentation, collection and analysis of data and communication of experimental results by oral, poster and written presentations. Students will select the physiology or pharmacology project from a list provided by the department and be matched to a supervisor.

Prerequisite(s): Physiology and Pharmacology 3000E, Physiology 3120 and 3140A; and registration in Year 4 of one of the following Honours Specialization modules: Pharmacology, Physiology, or Physiology and Pharmacology.

Timetabled Sessions

Component	Date(s)	Time
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- Workshops will be a flipped learning design combining asynchronous online pre-lectures with in-person synchronous learning activities
 - Asynchronous pre-work **must be completed** prior to workshops
 - Attendance at workshops is required
 - Any missed group work from the workshops will need to be completed independently and submitted within 48 hours of the scheduled workshop

All course material will be posted to OWL: <http://owl.uwo.ca>. Any changes will be indicated on the OWL site and discussed with the class.

If students need assistance, they can seek support on the [OWL Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

[Google Chrome](#) or [Mozilla Firefox](#) are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#).

5. Learning Outcomes

This course is designed to give you experience in conducting academic research in a university laboratory. The projects in this course have varying scopes and may reflect clinical or basic research. This course does emphasize academic research, and the coursework reflects activities that graduate-level researchers perform. Whether or not you pursue academic research through a graduate degree, the following learning outcomes are valuable in any profession.

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

- Work independently and collaboratively on a research project in a specific area of physiology and/or pharmacology where the project includes a substantial literature review, along with experimental design, collection, analysis, and interpretation of results
- Develop collaborative working skills and strategies to work efficiently with a small team to accomplish a goal
- Identify plagiarism and devise approaches to avoid this in their own writing
- Concisely describe a research project for a scientific audience using scientific language

- Summarize a research project in a manner that allows a general audience to understand the goals, methods, results, and implications of the work
- Successfully communicate their own research project in an oral presentation and a poster format to both experts and non-experts in the field
- Critically evaluate collected data
- Critically about data to evaluate a hypothesis and construct an appropriate conclusion
- Write a comprehensive scientific report in a journal manuscript format as a final thesis to share the important findings of their research project

6. Course Content and Schedule

Semester 1

Week	Dates	Topic
1	Sept 7 - 8	Interviews Thursday, Sept 7 th (12:30–2:30 pm) via zoom
2	Sept 11/13	Introduction to 4980: Group work & Research Goal Setting
3	Sept 18/20	Plagiarism & Professionalism
4	Sept 25/27	Concise Scientific Writing: The research proposal & Evaluating peer submissions
5	Oct 2/4	Western Libraries workshop: How to Search for Literature & Reference Managers
6	Oct 9/11	<i>No classes (Thanksgiving Monday)</i>
7	Oct 16/18	How to Read the Literature
8	Oct 23/25	How to Give a Great Presentation
9	Oct 30/Nov 1	Reading Week
10	Nov 6/8	Research Progress Report
11	Nov 13/15	<i>No workshop: Q&A Office Hours</i>
12	Nov 20/22	Oral Presentations *Accommodation required if absent
13	Nov 27/29	Oral Presentations *Accommodation required if absent
14	Dec 4/6	Writing a Thesis: Where to start



Semester 2

Week	Dates	Topic
1	Jan 8/10	Check in Week: Ready for Semester 2?
2	Jan 15/17	<i>No workshop: Q&A Office Hours</i>
3	Jan 22/24	<i>Individual Writing Time: no workshop</i>
4	Jan 29/31	<i>Individual Writing Time: no workshop</i>
5	Feb 5/7	Statistics and Data Analysis
6	Feb 12/14	<i>Individual Writing Time: no workshop</i>
7	Feb 19-23	Reading Week
8	Feb 26/28	How to Prepare a Poster
9	Mar 4/6	<i>Individual Data Analysis Time: no workshop</i>
10	Mar 11/13	<i>Individual Data Analysis Time: no workshop</i>
11	Mar 18/20	<i>Individual Writing Time: no workshop</i>
12	Mar 25/27	Poster Presentation Week
13	Apr 1/3	<i>Individual Writing Time: no workshop</i>
14	Apr 8	No class

7. Participation and Engagement



- Students are expected to participate and engage with content as much as possible
- Students are required to participate with their group members during workshops
- Students should arrange and/or attend regular meetings with the mentor(s) supervising their research project
- Students can also participate by interacting in the forums with their peers and instructors

8. Evaluation

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



Assessment	Format	Weighting	Due Date
Workshop Assignments	Written (Group work)	12% (6 marked worth 2% each)	At end of workshop
Goal Setting Assignments	Written (Individual)	2% (2 submitted worth 1% each)	At end of workshop
Research Proposal	Written	9%	Mon Oct 23, 2023
Proposal Presentation	Oral presentation	12%	Weeks of Nov 20 & Nov 27, 2023
Research Progress Report	Written	5%	Fri Dec 8, 2023
Thesis Draft #1 (Intro & Methods)	Written	2.5%	Mon, Jan 29, 2024
Thesis Draft #2 (Abstract, Results, Figures, Legends)	Written	2.5%	Mon, Mar 11, 2024
Poster Presentation	Oral presentation	15%	Mon, Mar 25, 2024
Final Thesis	Written	30%	Mon, Apr 8, 2024
Lab Performance Semester 1	N/A	5% (1% self-evaluation; 4% supervisor evaluation)	End of Term
Lab Performance Semester 2	N/A	5% (1% self-evaluation; 4% supervisor evaluation)	End of Term

Other Deadlines			
Peer Review: Research Proposal (2 papers)	Track changes feedback with grade		Fri, Nov 10, 2023
Peer Review: Draft #1 (2 papers)	Track changes feedback with grade		Fri, Feb 9, 2024
Peer Review: Draft #2 (2 papers)	Track changes feedback with grade		Mon, Mar 18, 2024

- All assignments are due at or before 1:59:59 pm ET 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). You are able to download your assignment attachment after submission to confirm you have met formatting requirements. The final attachment at the submission due date will be considered the final version and will be used to assess formatting requirements.
- Written assignments will be submitted to Turnitin (statement in policies below)
- Students will have unlimited submissions to Turnitin using a separate “plagiarism checker” link before the final submission of that assignment
- Rubrics will be used to evaluate assessments and will be posted with the instructions
- A student might not receive the same grade as their group members if it is determined that the distribution of work was not equal
- Workshop assignments will be saved and submitted as a group in OWL for feedback by the deadline stated above
- After an assessment is returned, students must wait 24 hours to digest feedback before contacting the course coordinator; to ensure a timely response, reach out within 7 days
- Any appeals on graded assignments must be submitted to the course coordinator within 3 weeks of the grade being published through a clear and professionally composed email on the reason(s) for the appeal. Any warranted reassessments will be completed by a course committee member. The new grade may be higher or lower upon reassessment.

Information about late or missed evaluations:

- Late assessments without accommodation will be subject to a late penalty 20%/day
- Late submission of Thesis Draft #1 and Thesis Draft #2 will not be accepted. If you miss the deadline for these assignments, the weighting will be shifted to the final thesis
- For missed workshops, you will be required to complete the assignment individually and submit it within 48 hours of the workshop deadline. If an independent workshop assignment is not received, a grade of 0 will be applied for that workshop

Formatting, Professionalism & Mark Deductions: Following instructions on assignments, tasks, and applications is very important. It could mean the difference between getting a research grant, fellowship, or scholarship. Not following the set guidelines could also be the difference between having a paper accepted in a scientific journal, or having it outright rejected. Additionally, not following the guidelines could be the difference between an invitation for a job or professional school interview and being in the pool of unsuccessful applicants.

Therefore, we value this trait in 4980 as well. **A deduction of 1 percentage point** from your final course grade will be applied for not adhering to instructions (i.e. a 10% deduction from a 10% assignment). If thorough **peer reviews** are not completed on time as per instructions, a deduction of **1 percentage point** will also be applied to your final grade. Every person in this course deserves to have thoughtful and extensive feedback on their writing with a justification of the mark assigned.

For the oral research proposal presentations: **your attendance is mandatory for all presentations on both presentation days.** The doors to the presentation rooms will be closed at the presentation start time. If the student presentation has started, you will not be allowed entry into the room. Each missed presentation will result in a 1 percentage point penalty to your final course grade via deduction from the presentation grade. If the presentation missed is also your assigned peer review, an **additional 1 percentage point** deduction will be applied to your final grade. If you do not provide a peer review grade to another student, an additional penalty of not having a student peer review used in calculation of your grade will be applied.

Click [here](#) for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

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

INC (Incomplete Standing): If a student has been approved by the Academic Counselling 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 Counselling 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 Counselling 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 Counselling 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.

9. Communication



- Students should check the OWL site every 24–48 hours
- Students should contact the course coordinator using the **OWL messenger** function
- Messenger will be monitored during regular business hours; students will receive a response in 48 – 72 hours
- Students should post all course-related content and questions on the discussion forum so that everyone can access answers to questions. Forum posts will remain anonymous to your peers and only the course coordinator and our TA's will see the post's author.
- The discussion forums will be monitored Mon-Fri by the course coordinator and our TA's

10. Office Hours



- Individual office hours** will be held by appointment. The course coordinator will be available for in-person or virtual meetings as per student's preference
- Students will be able to attend **group drop-in Q&A sessions**, during normal workshop times. No sign up required for these sessions. They will be held in-person or via Zoom

11. Resources



- All resources will be posted in OWL
- A lab book is required for research project (or digital lab records if authorized and accessible by your supervisor). The lab book is to remain in the lab.

12. Professionalism & Privacy

Western students are expected to follow the [Student Code of Conduct](#). Additionally, the following expectations and professional conduct apply to this course:



- All course materials created by the instructor(s) are copyrighted and cannot be sold/shared (e.g., Must Knows Facebook group, Course Hero, Chegg, etc.)
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed
- Students will be expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed

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).

13. How to Be Successful in this Class:

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.



1. **Invest in a planner** to keep track of your courses and assignment deadlines. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
2. Make it a **daily habit to log onto OWL** to ensure you have seen everything posted to help you succeed in this class.
3. **Take notes** as you go through the material. Keeping handwritten notes will help you learn more effectively than just reading or watching any posted videos. *Note: typed notes work too, but literature suggests handwritten notes are a more effective learning strategy.*
4. **Connect with others.** Build relationships among your group members and 4980 peers and try to interact regularly for peer support or help in other 4th year courses.
5. **Do not be afraid to ask questions.** If you are struggling with a topic, check the online

discussion forums or contact your course coordinator. If you are struggling in your research project, many members of your lab will be happy to help. Don't be afraid to ask. They were all in your shoes once too.

6. **Reward yourself** for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.
7. **Try to keep a weekly routine.** Consistent wake up times, regular exercise, and building in some enjoyable activities will help break up your week to balance academics and your own personal health and wellbeing.
8. **Show initiative** in your research project. If you don't have enough to do to fulfill your 15 hr/week requirements, ask if you can be helpful somewhere else. Being eager, resourceful, and independent is a good thing, but also be respectful of your lab member's time and boundaries.

14. Western Academic Policies and Statements

Absence from Course Commitments

A. Absence for medical illness:

Students must familiarize themselves with the [Accommodation for Illness Policy](#).

A student seeking academic accommodation for any **work worth less than 10%** must contact the instructor or follow the appropriate Department or course specific instructions provided on the course outline. Instructors will use good judgment and ensure fair treatment for all students when considering these requests. You are not required to disclose details about your situation to your instructor; documentation is not required in this situation, and you should not send any pictures to your instructor.

If you are unable to meet a course requirement for any **work worth 10% or greater** due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Academic Counselling as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. Please note that the format of a make-up test, exam, or assignment is at the discretion of the course coordinator.

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found at: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

B. Absence for non-medical reasons:

Student absences might also be approved for non-medical reasons such as religious holidays and compassionate situations. Please review the policy on [Accommodation for Religious Holidays](#). All non-medical requests must be processed by Academic Counselling. Not all absences will be approved; pay attention to the academic calendar and final exam period when booking any trips.

Academic Offenses

Scholastic offences are taken seriously, and students are directed [here](#) to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

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](#)

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 his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts [here](#).

Essay Course Guidelines

The guidelines for the minimum written assignments refer to the cumulative amount of written work in a course but excludes written work in examinations. You can read about essay course guidelines [here](#).

An essay course must normally involve total written assignments (essays or other appropriate prose composition, excluding examinations) as follows:

- Full course (1000 to 1999): at least 3000 words
- Half course (1000 to 1999): at least 1500 words
- Full course (2000 and above): at least 5000 words
- Half course (2000 and above): at least 2500 words

The structure of the essay course must be such that in order to pass the course, the student must exhibit some minimal level of competence in essay writing and the appropriate level of knowledge of the content of the course.

Turnitin and other similarity review software

All assignments will be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. Students will be able to view their results before the final submission. All papers submitted for such checking 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](#).

Use of AI Tools

Within this course, students are permitted to use AI tools exclusively for information gathering and preliminary research purposes. These tools are intended to enhance the learning experience by providing access to diverse information sources. However, it is essential that students critically evaluate the obtained information, exercise independent thinking, and engage in original research to synthesize and develop their own ideas, arguments, and perspectives. The use of AI tools can serve as a starting point for exploration, with students expected to uphold academic integrity by appropriately attributing all sources and avoiding plagiarism. Assignments and/or lab reports should reflect the students' own thoughts and independent written work. By adhering to these guidelines, students contribute to a responsible and ethical learning environment that promotes critical thinking, independent inquiry and allows them to produce original written contributions.

15. BMSUE Academic Policies and Statements

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. You must always ask permission to record another individual and you should never share or distribute recordings.

Rounding of Marks Statement

Across the Basic Medical Sciences Undergraduate Education programs, we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. **Final grades** on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks WILL NOT be bumped to the next grade or GPA, e.g., a 79 will NOT be bumped up to an 80, an 84 WILL NOT be bumped up to an 85, etc. The mark attained is the mark you achieved, and the mark assigned; requests for mark “bumping” will be denied.

16. Support Services

The following links provide information about support services at Western University.

[Academic Counselling \(Science and Basic Medical Sciences\)](#)

[Appeal Procedures](#)

[Registrar Services](#)

[Student Development Services](#)

[Student Health Services](#)