Research Project and Seminar Course
4480E/4483E/4500E/4970E
Course outline for Fall/Winter 2023-2024

Western University is committed to a **thriving campus**. We encourage you to check out the Digital Student Experience website to manage your academics and well-being. Additionally, the following link provides available resources to support students on and off campus: https://www.uwo.ca/health/.

1. **Technical Requirements:**

   Stable internet connection   Laptop or computer

   Working microphone   Working webcam

2. **Important Dates:**
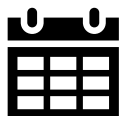
Classes Begin	Reading Week	Classes End	Study day	Exam Period
September 7	October 30 – November 5	December 8	December 9	December 10–22

* November 30, 2023: Last day to drop a full course without penalty
** September 29, 2023 is National Day for Truth and Reconciliation and is a non-instructional day

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**

Project Course Coordinators	Course	Contact Information
	4483E (Biochemistry) **4500E** (Chemical Biology)	
	4970E (Microbiology & Immunology)	
	4480E (Biochemistry & Cell Biology)	

4. Course Description and Design

Course Description:
The project course is the core of our honours modules. As a course, it is first and foremost a guided educational program in which students work on an independent research project under the mentorship of a faculty supervisor and other lab members. The goal of the course is to give students the opportunity to participate in science, rather than simply consume it.

Extra Information: 15 hours per week
Course Weight: 1.5 credits

Delivery mode:
This course will be in person. Virtual sessions, if required, will be a combination of synchronous (live) and asynchronous (recorded). Students will be expected to complete work prior to attending sessions. Timetabled sessions could be used for lectures, tutorials, discussions, groupwork, etc. Below are details about the sessions.

Requisites:
Access to the above thesis courses is restricted to students enrolled in one of the Honours Modules offered by the participating departments. Each module has its own prerequisites and requirements. The eligibility of each student is therefore determined prior to enrolment. Nevertheless, meeting the prerequisites and requirements of the thesis course remains the responsibility of the student.

Senate regulation regarding the student's responsibility for prerequisites:
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.

Timetabled Sessions:

Mode	Dates	Time	Frequency	Attendance required
In person	M/T/W/Th/F	3 hours	Daily *	Yes
In person	(See schedule) 1) General course information session 2) Fall research project presentation 3) First written report 4) Winter project outline 5) Final written report 6) Spring final research presentation	variable	selected sessions **	Yes
Virtual synchronous, virtual asynchronous, or in person	(See schedule) 1) Interviews to match with supervisor 2) Laboratory safety training	variable	selected sessions***	N/A

* Lab hours are expected to be scheduled in collaboration between the student and faculty supervisor.
** A schedule will be posted.
*** Virtual synchronous sessions will be recorded for later viewing.
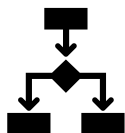
All course material will be posted to OWL: http://owl.uwo.ca. Any changes will be indicated on the OWL site and discussed with the class. Students are responsible for checking OWL at regular intervals.

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.

5. Learning Outcomes

Upon successful completion of this course, students will be able to:
- Apply the scientific process to answer real research questions.
- Communicate science through oral presentations and written reports.

6. Course Content and Schedule

The course is jointly administered by the Departments of Microbiology & Immunology, Biochemistry, and Anatomy & Cell Biology. Together we organize the placements, scheduling, and seminars. Students in any of these programs can select a supervisor in any of these Departments.

Early September is devoted to required safety and other training courses that must be completed before starting in the lab. Project matching must also be completed during this time. Projects begin typically by the third week of September (see schedule).

Students will give their first oral presentation in mid-October (see schedule). This is intended to give students the opportunity to introduce the background and rationale to their project and outline the methods that they will use to answer their research question(s). These presentations are graded by faculty, other members of the department, and peers.

Final written reports are typically due in early April (see schedule). These will be graded by two faculty members that are not your supervisor, usually from the home department of the supervisor. Final oral presentations will occur in early April and will again be graded by faculty, other members of the department, and peers.

Required Online Courses:
There are several online courses that do not contribute to your grade in the project course but are absolutely required to receive a grade. Upload your certificates of completion for each module on the OWL assignment page by the required date. You will not be able to continue your project past this date until all certificates are uploaded. Any late certificates will affect your first term performance review marks.

i) Safety Courses:
Health & safety courses are available online: https://www.uwo.ca/hr/learning/required/index.html. Certificates showing completion for these courses must be submitted to your supervisor prior to starting any work in the lab.

Required for all students:
- Worker Health & Safety Awareness
- WHMIS - Workplace Hazardous Materials Information System
- Western Safe Campus Community
- Building Inclusivity through Anti-Racism
- Supporting Disclosures of Gender-Based and Sexual Violence at Western
- AODA - Accessibility in Service

- Cyber Safety Awareness

  Required for most students:
- Mental Health Interactive Learning Module
- Laboratory Safety & Hazardous Waste Management
- Biosafety

  Additional training may be required – please speak to your supervisor.

ii) Responsible Conduct of Research Modules:

Western is pleased to provide training on <u>responsible conduct of research</u> through the N2 CITI Canada online education program. Please see full instructions posted on the Assignment.
Link: https://uwo.ca/research/services/training.html

Choosing your Project and Supervisor

The research projects undertaken by honours students can take very different forms, depending on the lab and type of research. The guiding principle is that students must perform a project designed to address a specific research question or questions. Discuss this with your supervisor.

By the middle of the summer, you will be given access to an OWL site with descriptions of available projects to help you with your search. Keep checking the OWL site as new projects will be loaded throughout the summer. Keep in mind that it is not required that you find a supervisor prior to the beginning of the term and projects will still be available. Project pre-matching ends September 1.

Prior to September 1 you may approach faculty that you are interested in working with about potential projects in their research group. If you do find a supervisor prior to the beginning of the term, follow instructions on the OWL site for confirming the match.

For those students who did not arrange for a supervisor prior to September, the second week of the term (see schedule) will be dedicated to interviews to help you find a match. Expect to interview with no more than 3 potential supervisors, after which you will submit your ranked preferences. Faculty will do the same. The course coordinators will do our best to match students with their choice of project based on these rankings.

Expectations in the Lab:
Projects begin during the third week of September (see schedule). Students are expected to devote a <u>minimum</u> of 15 hours per week on their project. The actual hours spent in the lab should be discussed with your supervisor. You should discuss expectations with your supervisor. Most labs will have group meetings that you should plan to attend. The quality of your experience in this course is highly dependent on the efforts that you put in.

NOTE: Safety regulations prohibit anyone from working alone in a research laboratory. Therefore, undergraduate research students are only permitted to work in the lab under the supervision of a senior lab member.

NOTE: Labs can be hazardous places. Ask what the hazards are and know how to handle them safely. Basics will be covered in the mandatory courses at the beginning of September, but you should also receive lab-specific training when you start your project.

Schedule:

DATE (y-m-d)	TIME	ROOM	TOPIC
2023-8-31	DEADLINE FOR RESEARCH PROJECT PRE-MATCHING		
2023-9-8			General course information – Required for all students.
2023-9-11 to 2023-9-15	STUDENT/FACULTY INTERVIEWS		
2023-9-15	DEADLINE TO SUBMIT PROJECT SUPERVISOR CHOICES by 3:00 PM		
2023-9-18	Deadline to complete all Lab Safety Training courses on OWL		
2023-9-18	RESEARCH PROJECTS START – Health & Safety training must be complete		
2023-9-25	Deadline to complete Responsible Conduct of Research Training and submit certificates on OWL		
2023-10-20		Various	First Research Project Presentations (15 min/each, 10 minutes + 5 minutes for questions)
2024-1-8	DEADLINE for first written report (Submit via OWL)		
2024-2-9			Guidelines for final report writing
2024-3-4	PROJECT OUTLINE DUE TO SUPERVISOR		
2024-4-2	DEADLINE TO Submit PROJECT REPORTS (Submit via OWL)		

2024-4-5			FINAL PRESENTATIONS (20 min/each, 15 minutes + 5 minutes for questions)

7. Participation and Engagement

☑ Students are expected to participate and engage with content as much as possible
☑ Students can participate during oral sessions or post on OWL after watching the recording
☑ Students can also participate by interacting in the forums with their peers and instructors

Evaluation

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

Assessment	Weighting	Due Date
First Oral Presentation	8%	October 20, 2023
First Written Report	10%	January 8, 2024
Final Written Report	50%	April 2, 2024
Second Oral Presentation	12%	April 5, 2024
Final Performance Evaluation	20%	April 30, 2024

☑ All assignments are due at 11:55 pm Eastern time 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 at the discretion of the course coordinator
☑ Written assignments will be submitted to plagiarism detection software (statement in policies below)
☑ Rubrics will be used to evaluate assessments and will be posted with the instructions
☑ 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
☑ Any grade appeals on assessments must be received within 3 weeks of the grade being posted.

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

Information about late or missed evaluations:

☑ Late assessments without accommodation will be subject to a late penalty 10%/day
☑ Refer to Section 13 on policy on Absence from Course Commitments
☑ First and second oral presentation, first written report, and final written report must be completed in order to pass the course. If any elements are missed an incomplete (INC) may be recorded and the student will complete it the next time the course is offered.

INC (Incomplete Standing): If any elements are missed for a prolonged period, 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.

First Oral Presentation: **8% of final grade**
The first oral presentation will occur early on in your project (see schedule). It should be no longer than 10 min, followed by 5 min for questions (15 minutes total). Presentations that go over this time may be cut off. Students should present the research question(s) that their proposal will address, background information and preliminary results, and outline the methods that will be used. Slides should be prepared in PowerPoint or similar. Students should discuss details of content and form with their supervisor prior to preparing their presentations. Oral presentations are expected to take place in person but may be moved to Zoom if required**.** Sessions will be held concurrently, grouped by field, attended by Faculty and other department members. Project students must attend the entire session. Attendees will grade presentations.

First Written Report: **10% of final grade (along with performance evaluation)**
A written Introduction is due in early January (see Schedule) and will be submitted via the OWL HSP Project site. It should be up to 3 pages long (double spaced), plus references. It should provide an introduction to your project, state your research questions, and summarize your proposed experimental approach. This Introduction and your progress to date in the lab will contribute to your December evaluation by your supervisor.

Final Written Report: **50% of Final Grade**
Final reports are due in early April (see schedule for date) and will be submitted via the OWL HSP project site. Late reports will lose 10% per day up to 3 days. Reports will not be accepted if more than 3 days late.

Reports are to be written in the style of a research paper with an Abstract, Introduction, Methods, Results, and Discussion sections. Figures and legends should be prepared as if for publication and appended at the end. References should be handled appropriately. Specifics of content and style should be discussed with your supervisor.

Reports should not be longer than 20 pages, double-spaced, not including abstract, figures, and references.

An outline of your thesis is due to your supervisor after winter term reading week (see schedule). Your supervisor can give you general feedback and guidance at this time, but can't re-write your paper for you. It is also acceptable to get feedback from other colleagues in the lab.

After submission, your paper will be marked by at least two faculty that are not your supervisor, but that are familiar with the subject.

NOTE: A 1-page form (provided on OWL) stating the project start date and outlining your contribution to the presented research must be uploaded as a separate document to the OWL site.

NOTE: We will have a lecture specifically on writing your report early in the winter semester (see Schedule).

Final Oral Presentation: **12% final grade**
The final oral presentation will typically occur the week after the written report is due (see schedule). It should be no longer than 15 min, followed by 5 min for questions (20 minutes total). Presentations that go over this time will be cut off. Students should present an introduction to their project, rational, research question(s), and results from the year. Slides should be prepared in PowerPoint or similar. Students should discuss details of content and form with their supervisor prior to preparing their presentations.

Sessions will be held concurrently, grouped by field, attended by Faculty and other department members. Project students must attend the entire session.

Final Performance Evaluation: 20% final grade
At the end of the course, your supervisor will evaluate your overall performance in the lab. This will be based on your commitment, effort, initiative, overall understanding of the project and intellectual contribution and performance. This will, in part, be based on the thesis outline that you submit to your supervisor after Reading Week.

Final Note on Evaluation:
Keep in mind that different projects can have very different types of outcomes. Negative experimental results are common, especially in short time frames such as this course. Sometimes experiments just don't work. The excitement of the projects that you are undertaking is that you and your supervisor don't know what the outcome will be, and therefore evaluations are not based necessarily on how much data is produced. All faculty are experienced in what kind of effort is required for any given type of project and this will be taken into consideration at all levels of evaluation.

If problems arise in your project or lab, discuss it first with your supervisor. If this does not resolve the issue, contact your course coordinator.

8. Communication:

- ☑ All course-related announcements and communication will be made using the "HSP Project Site 2023" OWL site. Students should check the site frequently.
- ☑ Grades will be communicated by course-specific OWL sites
- ☑ Students should contact their instructor(s) and teaching assistant(s) using email
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- ☑ Emails will be monitored daily; students will receive a response in 24 – 48 hours
- ☑ Students should post all course-related queries on the discussion forum so that everyone can access the questions and responses

9. Office Hours

Office hours for course coordinators will be posted in OWL.

10. Resources

- ☑ All resources will be posted in OWL
- ☑ Additional resources will be provided by your research supervisor

11. 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
- ☑ Recordings are not permitted (audio or video) without explicit permission
- ☑ Permitted recordings are not to be distributed

12. 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 or application to keep track of your courses. 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. Follow weekly checklists created on OWL or create your own to help you stay on track.
4. Take notes as you go through the lesson material. Treat this course as you would a face-to-face course. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively than just reading or watching the videos.
5. Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
6. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).
7. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

13. Western Academic Policies and Statements

The Departments of Biochemistry, Microbiology & Immunology, and Anatomy & Cell Biology recognize diversity of identity and experience as a source of strength that promotes excellence, innovation, flexibility and adaptability in our discipline. We embrace, nurture, value and celebrate this diversity.

Absence from Course Commitments

A. Absence for medical illness:

Students must familiarize themselves with the accommodation for illness policy:
https://www.uwo.ca/sci/counselling/procedures/academic_consideration_for_absences/illness.html

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 Counseling 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.

Discovery Credit Statement

Students are permitted to designate up to 1.0 Discovery Credit course (or equivalent) for pass/fail grading that can be counted toward the overall course credits required for their degree program. The details of this policy and the deadlines can be found 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.

15% Rule

According to the Evaluation of Academic Performance policy, at least three days prior to the deadline for withdrawal from a 1000- or 2000-level course without academic penalty, students will receive assessment of work accounting for at least 15% of their final grade. Generally, students can expect some form of feedback on their performance in a course before the drop date. In rare instances, at the Dean's discretion, an exemption can be issued, which also must be noted in the course syllabus. Deans should review exemptions on a course-by-course basis each time an exempted course is offered.

14. BMSUE Academic Policies and Statements

Cell Phone and Electronic Device Policy (for in-person tests and exams)

The Schulich School of Medicine & Dentistry is committed to ensuring that testing and evaluation are undertaken fairly across all our departments and programs. For all tests and exams, it is the policy of the School that any electronic devices, e.g., cell phones, tablets, cameras, smart glasses, smart watch or iPod are strictly prohibited. These devices MUST be left either at home or with the student's bag/jacket at the front of the room and MUST NOT be at the test/exam desk or in the individual's pocket. Any student found with one of these prohibited devices will receive a grade of zero on the test or exam. Non-programmable calculators are only allowed when indicated by the instructor. The program is not responsible for stolen/lost or broken devices.

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., 74.45 becomes 74, and 74.50 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.

15. Support Services

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

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.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Academic Counselling (Science and Basic Medical Sciences)

Appeal Procedures

Registrarial Services

Student Development Services

Student Health Services