



Medical Biophysics MEDBIO 4970/4971E

DARFT Course Syllabus for Fall/Winter 2023



1. Technical Requirements:



Stable internet connection



Working microphone



Working webcam

Laptop or computer

2. Important Dates:

Classes Begin	Reading Week	Classes End	Study day(s)	Exam Period
September	October 30– November 5	December	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	February 17-25	April	April 9-10	April 11–30

3. Contact Information



4. Course Description and Design

Delivery Mode: in-person

Major laboratory and tutorial course in experimental/theoretical biophysics for students registered in an Honors Specialization in Medical Biophysics (Medical Science or Physical Science Concentration). The main components are (1) a major research project (topic and advisor chosen in consultation with the student) and (2) scientific communication (student presentations and reports). Students will work on the research project from September to March and present their results as a research paper (thesis) and public seminar. *Students are required to present the results of their work at the Medical Biophysics Undergraduate Research Conference held during the Alan C. Burton Day.*

Antirequisite(s):

Medical Biophysics 4970/1E.

Prerequisite(s):

Medical Biophysics 3970Z and registration in Year 4 of one of the following Honors Specialization modules: Medical Biophysics (Medical Science Concentration), Medical Biophysics (Physical Science Concentration), or Medical Biophysics (Biological Science Concentration).

Extra Information:



Students are expected to spend a *minimum* of 15 hours per week working on their research project.

Senate regulation regarding the student's responsibility regarding requisites:

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 if you are dropped from a course for failing to have the necessary prerequisites.

Timetabled Sessions

Asynchronous pre-work must be completed [days] prior to sessions

- Attendance at sessions is required
- \checkmark Missed work should be completed within 24 hours

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 <u>OWL Help page</u>. Alternatively, they can contact the <u>Western Technology Services Helpdesk</u>. They can be contacted by phone at 519-661-3800 or ext. 83800.

<u>Google Chrome</u> or <u>Mozilla Firefox</u> are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click <u>here.</u>

5. Learning Outcomes

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



- Compile a literature review based on primary literature and develop a rationale and motivation for a research project. Work independently and/or collaboratively on a research project, explain the methods, results, and discuss the meaning of the research findings in relation to existing peer-reviewed literature through the writing of a scientific report in journal manuscript format ("the thesis").
- Demonstrate independent technical expertise for lab procedures (general or field-specific) and record study/experimental details in a clear, rigorous, and repeatable manner.
- Present research work clearly and accessibly to a variety of audiences, through short pitches, seminar-length oral presentations, and as a scientific poster.

6. Course Structure

Required Activities:

There are four main components to this course:

- 1. An individual research project in the laboratory of a faculty member.
- 2. Regularly scheduled in-class lectures/workshops.
- 3. Attendance at departmental seminars
- 4. Completion of additional assignments.

Research Project:

Students are responsible for finding a research project and supervisor. Supervisors must have a faculty appointment in the Department of Medical Biophysics or another Western University department. Preference should be given to professors who have submitted projects that appear on the resources/projects page.

If a student has arranged to work with a specific supervisor who has not submitted a project description, then the student and supervisor must provide a project description for approval within 1 week of the first class/other specified deadline. Please send the project description to the course instructor by email (please cc the course TAs).

As part of their research project, each student is required to complete assignments and presentations related to their research.

Classes:

This portion of the course will emphasize critical analysis and communication in science. Students will meet throughout the year at assigned times for instruction and practice in these aspects of scientific research.

7. Course Content and Schedule

Please note that the schedule may be subject to changes. Any modifications will be communicated via the course OWL page and during class.

8. Participation and Engagement



- Students are expected to participate and engage with the course as much as possible
- Students can participate during lectures, seminars, and class discussions
- Students can also participate by interacting in the forums with their peers and instructors

9. Evaluation

A summary of each evaluation is detailed below. In brief, students will be evaluated by their supervisor on their performance in the laboratory. This will include not only technical skills, but also their familiarity with the scientific literature and their contribution to the experimental design, analysis, and interpretation of the data. This evaluation will be done at two times during the academic year. The first evaluation will be done at the end of the first term and is designed to inform the student on their progress to date. The second evaluation will be done at the end of the second term. We will provide you with the marking sheet so that you can see the evaluation criteria.

For written work, all assignments will be evaluated by the course teaching assistant(s). The scientific paper ("thesis") will be evaluated by teaching assistant(s) and the course coordinator (see table below for details). Peer evaluations may be utilized for earlier draft versions of the paper submitted throughout the year, to help you improve your writing. Please note that the supervisors will not assist you in writing your thesis. Students will be evaluated on their written assignments and oral presentations throughout the year by the course coordinator, teaching assistant(s), and potentially other faculty involved. Feedback will be given to students as soon as possible after presentations.

All written work, including the final scientific paper (thesis), must be submitted electronically through OWL. Hard copies of the paper will not be accepted.

Student participation in the oral presentation sessions is expected. Attendance at all activities, including lecture and workshops, is mandatory, and there are no exceptions to this rule. If you are unable to attend a session, the usual University requirements for absence apply (see Section 14) and you should inform both the course TA(s) and instructor as soon as possible. Failure to attend classes and workshops will result in a reduction in the participation and attendance mark.

** The department and course coordinator/instructor reserve the right to make adjustment to the grading scheme and scheduled deadlines if deemed necessary**

Click <u>here</u> for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

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

Information about late or missed evaluations:

- Late reports, presentations, and assignments will be subject to a late penalty of 20% for each 24h period or fraction thereof after the due date (e.g., reports submitted a few minutes after the deadline will be penalized 20%). Penalties can only be avoided with official academic accommodation.
- In addition, properly following instructions on each assignment submission is very important. This
 includes submitting assignments in the correct location, formatting the assignment correctly, as well as
 other details which will be clearly outlined for each assignment. A deduction of 10% from the
 assignment will be applied for not adhering to instructions.
- In the event a student has been involved in academic misconduct (e.g., plagiarism) with respect to a report, presentation or assignment, the student will receive a grade of zero for the report, presentation or assignment and be subject to UWO penalties for academic misconduct (see below).

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 <u>Types of Examinations</u> policy.

10. Communication:

- Students should check the OWL site every 24–48 hours
- Students should email their instructor(s) and teaching assistant(s) using [email or OWL]





11. Office Hours:

Office hours will be booked by email

✓ Office hours cab be individual or group

12. Resources



All resources will be posted in OWL
 There is no required textbook for this course

13. Professionalism & Privacy:

Western students are expected to follow the <u>Student Code of Conduct</u>. 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

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 <u>Non-Discrimination/Harassment Policy</u> (M.A.P.P. 1.35) and <u>Non-Discrimination/Harassment Policy – Administrative Procedures</u> (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 <u>Human Rights Office</u>. 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).

14. 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 progress. Populate all your deadlines at the start of the term and schedule your time throughout the school year.
- 2. Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this course.
- 3. Start your research project as soon as possible.
- 4. Do not be afraid to ask questions. If you are struggling with you research project or are facing any challenges, please contact the instructor and/or teaching assistant(s).

15. 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 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 found be 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 <u>Accommodation for Religious Holidays</u>. 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.

C. 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 Examinations dates. These dates as well as other important information about examinations and academic standing can be found <u>here.</u>

Academic Offenses

Scholastic offences are taken seriously, and students are directed <u>here</u> 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 <u>The policy on Accommodation for Students with Disabilities</u>

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 <u>here</u>.

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 <u>here</u>.

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 <u>here</u>.

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 <u>Turnitin.com</u>.

16. 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.

Statement on the use of ChatGPT and other Artificial Intelligence (AI) Platforms

The university currently does not have specific regulations in place regarding the use of generative AI tools like ChatGPT. Students are encouraged to experiment with these tools to enhance their writing skills; however, they should not rely on these tools to write their theses.

17. 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