



Department of Medical Biophysics MEDBIO 4720B

Course Syllabus for Winter 2025

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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.

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. (Classes Begin	Reading Week	Classes End	Study day(s)	Exam Period
	January 6	February 15–23	April 4	April 5–6	April 7–30
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4. Course Description and Design

Delivery Mode: This course is intended to be delivered live (in person), with a several GTA-directed tutorial sessions (Zoom or in person, as scheduled). **All classes will be held in -----unless otherwise stated.**

This course will present the major modalities of medical imaging (e.g., MR, PET, CT, etc.) from a conceptual perspective. Clinical correlate lectures will be used as follow ups to provide applications to real world pathological conditions and to understanding the benefits of those modalities for guiding clinical diagnosis/improving health outcomes.

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

Component	Date(s)	Time
Lectures	Three days a week	1 hr
Tutorials	when indicated	1 hr

	Asynchronous pre-work must be completed prior to sessions
$\overline{\checkmark}$	Attendance at sessions is required

Missed work should be completed within 24 hours

All course material will be posted to OWL: https://westernu.brightspace.com/d2l/login. 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 Brightspace Help</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.

Current versions of all popular browsers (e.g., Safari, Chrome, Edge, Firefox) are supported with OWL Brightspace; what is most important is that you update your browser frequently to ensure it is current. All JavaScript and cookies should be enabled.

5. Learning Outcomes

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

- demonstrate a thorough knowledge of the basic biophysical concepts for medical imaging techniques in use in a modern clinical setting
- compare and contrast the major differences between the medical imaging techniques presented in the course
- discuss the strengths and limitations of the major medical imaging techniques in clinical practice today
- explain why different modalities of medical imaging are preferred in different clinical settings and how the information derived is applied to improve clinical outcomes

6. Course Content and Schedule

Dates	Topic	Instructor	Instructor	Instructor
Jan 6	Introduction X-Ray – Basic X-Ray – Clinical			
Jan 13	X-Ray – Clinical , Fluoro/CT – Basic CT – Clinical			
Jan 20	Tutorial Cardiac Angio Fluoro Clinical			
Jan 27	Dual Energy Contrast - Basic Clinical Angio Tutorial			
Feb 3	Exam #1 MR – Basic 1 MR – Basic 2	Exam #1 (2/4)		
Feb 10	MR – Clinical Func Neuroimag Tutorial			
Feb 17	No classes	n/a	n/a	n/a
Feb 24	Diag Neuroimag Rad and Med Imag PET - Basic			
Mar 3	PET – Clinical PET – Clinical Neurorad Diag			
Mar 10	Tutorial Exam #2 Molecular Imag 1		Exam #2 (3/13)	
Mar 17	Molecular Imag 2)Theranostics US Imag - Basic			

Mar 24	Imag and Radiotherapy – Basic US Imaging - Clinical US Guided Radiotherapy		
Mar 31	Imag and Radiotherapy - Clinical Tutorial Exam #3		Exam #3 (4/4) END OF COURSE

7. Participation and Engagement

\checkmark	Active participation	in the course	lectures is	critical for o	ptimaloutcomes
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- Students are expected to actively participate in the main lectures through engaging wh questions with both the "basic science" and "clinical correlate" instructors
- Students can also participate by interacting in the tutorial sessions with their peers and instructors

8. Assessment and Evaluation

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

Assessment	Format	Weighting	Due Date	Flexibility
Exam 1	Written, in class	33.33%	2/4; end of class	Alternate exam, within 1 week
Exam 2	Written, in class	33.33%	3/13; end of class	Alternate exam, within 1 week
Exam 3	Written, in class	33.34%	4/4; end of class	Alternate exam, within 1 week

Information about flexibility in assessment

Flexibility in assessment has been applied to this course; therefore, academic consideration requests may be denied on the assessments where flexibility is included

General information about assessments

- All assignments are due at the end of the class time or upon the limits in the Flexibility in Assessment"
- 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 exams must be received within 2 weeks of the grade being posted.

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.

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

Information about late or missed assessments:

	Late assessments without academic consideration will be assigned a grade of zero (0) An assessment cannot be submitted after it has been returned to the class. If an appropriate accommodation has been granted, the weight will be transferred to the final grade List all course components (e.g., exams must be completed to pass the course, unless a appropriate accommodation has been granted. If elements are missed, the student will be assigned a grade of "incomplete" (INC) and the student must complete the assignment at the next offering of the course.
	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.
9.	Communication ✓ Students should check the OWL Brightspace site every 24–48 hours ✓ Students should email their instructor(s) and teaching assistant(s) using email addresses above ✓ 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
10.	Office Hours Office hours will be held by appointment only; requests to be made by email. Tutorials will be held as scheduled above; additional requests to be made by email.
11.	Resources All resources will be posted in OWL Brightspace
12.	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

di 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 <u>Human Rights Office</u>. Harassment and discrimination can be human rightsbased, 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 or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule your time throughout the course.
- 2. Make it a daily habit to log onto OWL Brightspace to ensure you have seen everything posted to help you succeed in this class.
- 3. Follow checklists created on OWL Brightspace or create your own to help you stay on track.
- 4. Take notes as you go through the lesson material. 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.

14. Western Academic Policies and Statements

A. Absence from Course Commitments

Students must familiarize themselves with the Policy on <u>Academic Consideration – Undergraduate</u> 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 <u>without</u> supporting documentation. Note that supporting documentation is <u>always</u> 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) or there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period).

Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course syllabus. Supporting documentation for academic considerations for absences due to illness should use the <u>Student Medical Certificate</u> or, where that is not possible, equivalent documentation by a health care practitioner.

Accommodation for Religious Holidays

Students should review the policy for <u>Accommodation for Religious Holidays</u>. 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 Examinations dates. These dates as well as other important information about examinations and academic standing can be found here.

B. 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.

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.

C. 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 <a href="https://doi.org/10.1016/j.com/ncommodation-ncommodati

D. 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.

E. 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>.

15. 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.

16. Support Services

- ☐ Students who are in emotional/mental distress should refer to Mental Health @Western Health https://www.uwo.ca/health/ for a complete list of options about how to obtain help.
- ☐ To connect with a case manager or set up an appointment, please contact <u>support@uwo.ca</u>.
- Other important links:
 - o Academic Advising (Science and Basic Medical Sciences)
 - o Appeal Procedures
 - o Registrarial Services
 - Student Development Services
 - Student Health Services

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.