

Medical Biophysics
Cancer Therapy: MEDBIO 3467B

Course Syllabus for Winter 2027

This syllabus will be updated throughout the semester

This course takes place at Western University, which is located on the traditional territories of the Anishinaabek, Haudenosaunee, Lūnaapéewak, and Chonnonton Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum.

Students who are in emotional and/or mental distress should refer to <https://www.uwo.ca/health/> for a complete list of options about how to obtain help.

Our classroom is a place where we are all treated with respect, and we will work together to create an inclusive learning environment.

We welcome all perspectives and a diversity of opinions and backgrounds.

As a class, we expect all participants to show respect to each other by listening, considering, supporting, and respectfully disagreeing.

Diversity of perspective and diversity of opinion are valuable parts of a productive and successful team; we will strive to model this strength in our classroom.

1. Important Dates:



Classes Begin	Reading Week	Classes End
Monday 4 January 2027	13 - 21 February 2027	Friday 9 April 2027

12 January 2027: Last day to add or drop a Winter 12-week course

30 March 2027: Last day to withdraw from a Winter 12-week course without academic penalty

2. Contact Information



Course Coordinator	Contact Information
Instructor and Teaching Assistants	Contact Information
TBA	

3. Course Description and Design

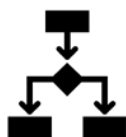
Delivery Mode: in-person in MSB TBA

Description:

This course aims to provide students with a breadth of knowledge about cancer therapy and its heterogeneity. The course follows fictional patients to demonstrate the screening and diagnosis of their cancer, and 3 of their potential treatment options (surgery, radiation therapy, and systemic therapy). The course dives into how many of these treatments work for the proposed fictional patients and why these patients may or may not choose these treatments.

Pre- or corequisite(s): Medical Biophysics 3501A or Medical Biophysics 3720A. Open only to students who are registered in Years 3 or 4.

Timetabled Sessions



Component	Date(s)	Time
Lectures		

- ☒ If there is asynchronous pre-work, it must be completed 1 day prior to sessions
- ☒ Attendance at sessions is required
- ☒ 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 [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](#).

4. Learning Outcomes

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

1. Describe the heterogeneity of cancer processes.
2. Describe what cancer is and how it differs from normal cells.
3. Describe how cancer is screened and diagnosed.
4. Describe how surgery, radiation, chemotherapy and immunotherapy are used to treat cancer.
5. Compare and contrast local therapy vs systemic therapy and give the advantages and disadvantages of both approaches.
6. Explain why not all treatment modalities and therapies may not be suitable to treat all cancers. Give examples of each case.



7. Create a simulated, simple cancer therapy plan for a specific type of cancer.
8. Work collaboratively with peers to plan a fictional cancer patient's treatment plan using the information provided about the patient.
9. Discuss the common concerns cancer patients may have about their cancer therapy and how these concerns may affect the patient's willingness to undergo one therapy over another.
10. Critique scientific writing and create a high-quality scientific report and presentation.

5. Course Content and Schedule**



Week	Dates	Topic	Notes
1	Jan 4-8	Introduction to Cancer Breast/Prostate Cancer Screening	
2	Jan 11-15	H&N/Leukemia Screening Breast/Prostate Diagnosis	
3	Jan 18-22	H&N/Leukemia Diagnosis Intro to Prostate Surgery	
4	Jan 25-29	Intro and Screening & Diagnosis Quiz H&N/Breast Surgery	
5	Feb 1-5	Surgery Guest Speaker Intro to Radiation Treatment	
6	Feb 8-12	Surgery Quiz Breast/Prostate Radiation	
7	Feb 15-19	Reading Week – NO CLASSES	
8	Feb 22-26	H&N/Leukemia Radiation Radiation Guest Speaker Intro to Systemic Therapies	
9	Mar 1-5	Radiation Quiz Leukemia/H&N Chemotherapy	
10	Mar 8-12	Prostate Hormone Therapy, Breast Chemo Systemic Therapy Guest Speaker	
11	Mar 15-19	Systemic Therapy Quiz Immunotherapy Summarizing Case Studies	
12	Mar 22-26	Pathologist Guest Speaker Assessments	No Class
13	Mar 29-Apr 2	Project Presentations	
14	Apr 5-9	Immunotherapy / Student Projects Quiz	

Notes:

H&N = head and neck cancer

**some variation may occur in dates to accommodate speaker schedules

6. Participation and Engagement

- ☒ Students are expected to participate and engage with content as much as possible
- ☒ Our classroom is designed to be a place for discussion, interaction, and mutual growth. Students are expected to participate during class as much as possible to take best advantage of this.
- ☒ Students can also participate by interacting in the discussion posts with their peers and instructors

7. Evaluation

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

Assessment	Format	Weighting	Due Date	Flexibility
5 roughly bi-weekly quizzes	In class	50%	In schedule	Drop lowest
Guest speaker reflective pieces	Take-home	6%	5 weekdays after presentation	72-hour no late penalty
Final Project (see Description for rubric and details)	Prepared documents	16%	See Project Description	See project description
	Oral assessments (one group, one individual) (on zoom or in person)	22%	Weeks 8 & 11	Not applicable
	Final Presentation	6%	Weeks 12-13	Not applicable

Designated Assessment: Instructors are permitted to designate one assessment per course per term as requiring supporting documentation to receive academic consideration. See below for information on academic consideration policy and missed course work. For this course the following assessment has been designated as requiring supporting documentation:

- Final Presentation [Weeks 12-13]

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
- ☒ This course has 5 quizzes with only 4 of 5 quizzes counted towards your final grade. Academic consideration will not be granted for missed quizzes. Students will receive a grade of zero for any missed quizzes within the required 4 quizzes.
- ☒ No late penalties will be assessed within 72 hours of Guest Speaker Reflection due dates

General information about assessments

- ☒ All assignments are due at 11:59 pm EST unless otherwise specified
- ☒ Students are responsible for ensuring that the correct file version is uploaded; incorrect submissions including corrupt files could be subject to late penalties (see below) or a 0
- ☒ Written assignments will be submitted to Turnitin (statement in policies below)
- ☒ Students will have unlimited submissions to Turnitin
- ☒ 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
- ☒ 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
- ☒ Assessment re-grading could result in the mark increasing, decreasing, or remaining the same
- ☒ Prior to the filing of a written request for relief, students must attempt to resolve the concern regarding a mark or grade through informal consultation with the instructor. If the student is dissatisfied with the decision of the instructor or does not receive a decision from the instructor, a written request for relief must be submitted to the Department Chair within three (3) weeks from the date that the mark was issued.

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 assessments:

- ☒ Late assessments without academic consideration will be subject to a late penalty 2%/day
- ☒ An assessment cannot be submitted after it has been returned to the class; an alternate assessment will be assigned.
- ☒ If a quiz is missed, see above for information about flexibility in assessment.
- ☒ The following must be completed and assessed, to pass the course: Group Assessment, Written Report: Final Draft, Individual Assessment, Presentation Slides: Final Submission. If these conditions are not met, a special exam will be set for the student (in-person, closed book, no aides, encompassing all course materials), and it will be held during the make-up exam time. The student will be assigned SPC as described below.

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, which could impact program progression. 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 for the final exam or the student misses the makeup for the final exam for reasons approved by the Academic Advising Office, the student will write the exam the next time the course is offered, which could impact program progression. Outstanding SPCs will reduce the course load for the term the exam is deferred as outlined in [Definitions of Types of Examinations](#) policy. If a student misses an SPC exam and is approved for academic consideration, they will be withdrawn from the course without academic penalty. If a student misses an SPC exam and is not approved for academic consideration, they will receive a grade of zero on the exam.

1. Communication

- ☒ Students should check the OWL Brightspace site every 24–48 hours
- ☒ Students should contact their instructors and teaching assistants using email
- ☒ Emails will be monitored every weekday; students will receive a response in 24–48 hours
- ☒ This course will use discussions on Brightspace.
- ☒ Students should post all course-related queries on the discussion forum so that everyone can access the questions and responses

2. Office Hours

- ☒ Office hours can be booked on demand using the booking app provided in Brightspace.
- ☒ Appointments with the instructor will be individual or group, as requested by the students.

3. Course Materials

- ☒ All resources will be posted on OWL Brightspace

4. 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/upload (e.g., Must Knows Facebook group, Course Hero, Chegg, ChatGPT, 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

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).

5. How to Be Successful in this Class

1. This course relies on class participation to be successful. You, as active participants in your learning, will be more successful the more you engage with the instructor and each other. Ask questions, join the discussion, engage with your peers.
2. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructors and/or teaching assistants.
3. Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
4. 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.
5. Make it a daily habit to log onto OWL Brightspace to ensure you have seen everything posted to help you succeed in this class.
6. Follow checklists created on OWL Brightspace or create your own to help you stay on track.
7. 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 reviewing the slides.
8. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

6. Western Academic Policies/Procedures and Statements

A. Absence from Course Commitments

Medical, Compassionate, or Extenuating Circumstances

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the [Student Absence Portal](#). Students are permitted one academic consideration request per course per term **without** supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during

the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes) 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 Student Medical Certificate or, where that is not possible, equivalent documentation by a health care practitioner.

Policy: [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Procedures: [Student Medical Certificate](#)

Religious Holidays

Students should review the policy for Accommodation for Religious Holidays (Appendix 1). 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.

Policy: [Accommodation for Religious Holidays](#)

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.

Policy: [Definitions of Types of Examinations](#)

B. Academic Appeals and Scholastic Offences

Students can file a **request for relief from academic decisions** if the request is based on one or more grounds listed in the policy. Requests for relief generally fall into three categories, which are also listed in the policy. All requests for relief must be supported by evidence. A request for relief from academic decisions process was formally referred to as an appeal. Refer to the policy and procedures about further details and timelines.

Policy: [Requests for Relief from Academic Decisions](#)

Procedures: [Undergraduate Student Academic Requests for Relief](#)

Scholastic offences are taken seriously, and students are directed to read the appropriate policy, specifically, the definition of what constitutes a scholastic offence.

Policy: [Scholastic Offences](#)

Procedures: [Undergraduate Scholastic Offences](#)

Students may **appeal** some academic and scholastic disciplinary decisions by a Dean or their designate, to the Senate Review Board Academic (SRBA).

Policy: [Senate Review Board Academic Appeals](#)

Procedures: [Senate Review Board Academic Appeals](#)

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.

Policy: [Academic Accommodation for Students with Disabilities](#)

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.

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.

Policy: [Undergraduate Course Credit](#)

Procedures: [Discovery Credits](#)

F. Statement on the Use of Electronic Devices

Only non-programmable calculators can be used during quizzes or examinations. No other electronic devices will be allowed.

G. Statement on the Use of Generative Artificial Intelligence (AI)

GenAI tools can be used 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 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.

Consider:

- You will not develop your own skills without practicing them or receiving feedback specific to you.
- You will not develop your own voice without exercising your own writing. An individual voice will stand out in a crowd, rather than a generic, large-language-model-derived voice. If you wish to stand out when applying for a job / applying for a grant / championing your ideas, you need to develop your individual and unique voice.

It is understood that GenAI tools are within easy reach of all of us. If you choose to use GenAI tools, you must:

- **DESCRIBE** the use of GenAI if it was used to improve your writing; be sure to describe the limits to which it was used.
- **BE RESPONSIBLE** for the content you include. If you use GenAI to provide content, follow the links it provides to the original source material and critically evaluate that content and cite as usual. Remember that GenAI makes mistakes and, as a scholar, you must critique, comprehend, and contextualize the information or argument.
- **CITE** the information. For guidance on how to cite output from GenAI, [please refer to this resource](#), endorsed by Western's Academic Integrity Tutorial.

H. Turnitin and other similarity review software

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted 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](#).

14. BMSUE Academic Policies and Statements

A. 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 and this will be documented as a Scholastic Offence. Non-programmable calculators are only allowed when indicated by the instructor. The program is not responsible for stolen/lost or broken devices.

B. Copyright and Audio/Video Recording Statement

Course materials produced by faculty are 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.

C. 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* in this course are rounded to the nearest whole number based on the first decimal place. For example, a grade of 74.49 or lower will be rounded to 74, whereas 74.50 or higher will be rounded to 75.

Marks WILL NOT be arbitrarily increased to the next grade or GPA, e.g., a 79 will NOT be increased to an 80, and 84 WILL NOT be increased to an 85, etc. The mark attained is the mark you achieved, and the mark assigned; requests for arbitrary mark increasing will be denied. Marks will be assigned based on assessments in the syllabus and no extra work or tasks will be assigned to increase a mark.

Course grade rounding provisions, as described above, differ from cumulative and term averages. Cumulative and term averages will be calculated to two decimal places and rounded to the nearest whole number with .45 rounded up, for the purposes of admission to and progression in modules, scholarship retention, and Dean's Honour List.

Policy: [Marks/Grades; Definitions of Grades; Grading Scale for Undergraduate Students](#)

15. Support Services

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

Statement on Gender-Based and Sexual Violence

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

<https://www.uwo.ca/health/gbsv/index.html>

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

Other important links:

- [Academic Advising \(Science and Basic Medical Sciences\)](#)
- [Learning Development and Success](#)
- [Office of the Registrar](#)
- [Wellness & Wellbeing](#)
- [Western USC Services](#)

Appendix 1: Western University Academic Policies and Procedures

The policies and procedures listed in this syllabus are outlined in the table below. In some cases, a policy does not include an accompanied procedures document.

Academic Policy	Name of Policy/Procedure	Links
General Policy	Marks/Grades; Definitions of Grades; Grading Scale for Undergraduate Students	Policy
General Policy	Structure of the Academic Year	Policy
Registration, Progression, Graduation	Course Numbering Policy, Essay Courses, and Hours of Instruction	Policy
Registration, Progression, Graduation	Undergraduate Course Credit	Policy • Procedures
Examinations	Definitions of Types of Examinations	Policy
Examinations	Evaluation of Academic Performance	Policy
Examinations	Examination Conflicts	Policy
Rights and Responsibilities	Academic Accommodation for Students with Disabilities	Policy
Rights and Responsibilities	Accommodation for Religious Holidays	Policy
Rights and Responsibilities	Policy on Academic Consideration – Undergraduate Students in First Entry Programs	Policy • Procedures
Rights and Responsibilities	Requests for Relief from Academic Decisions (Undergraduate)	Policy • Procedures
Rights and Responsibilities	Requests for Relief from Academic Decisions (Graduate)	Policy • Procedures
Rights and Responsibilities	Scholastic Offences (Undergraduate)	Policy • Procedures
Rights and Responsibilities	Senate Review Board Academic Appeals	Policy • Procedures