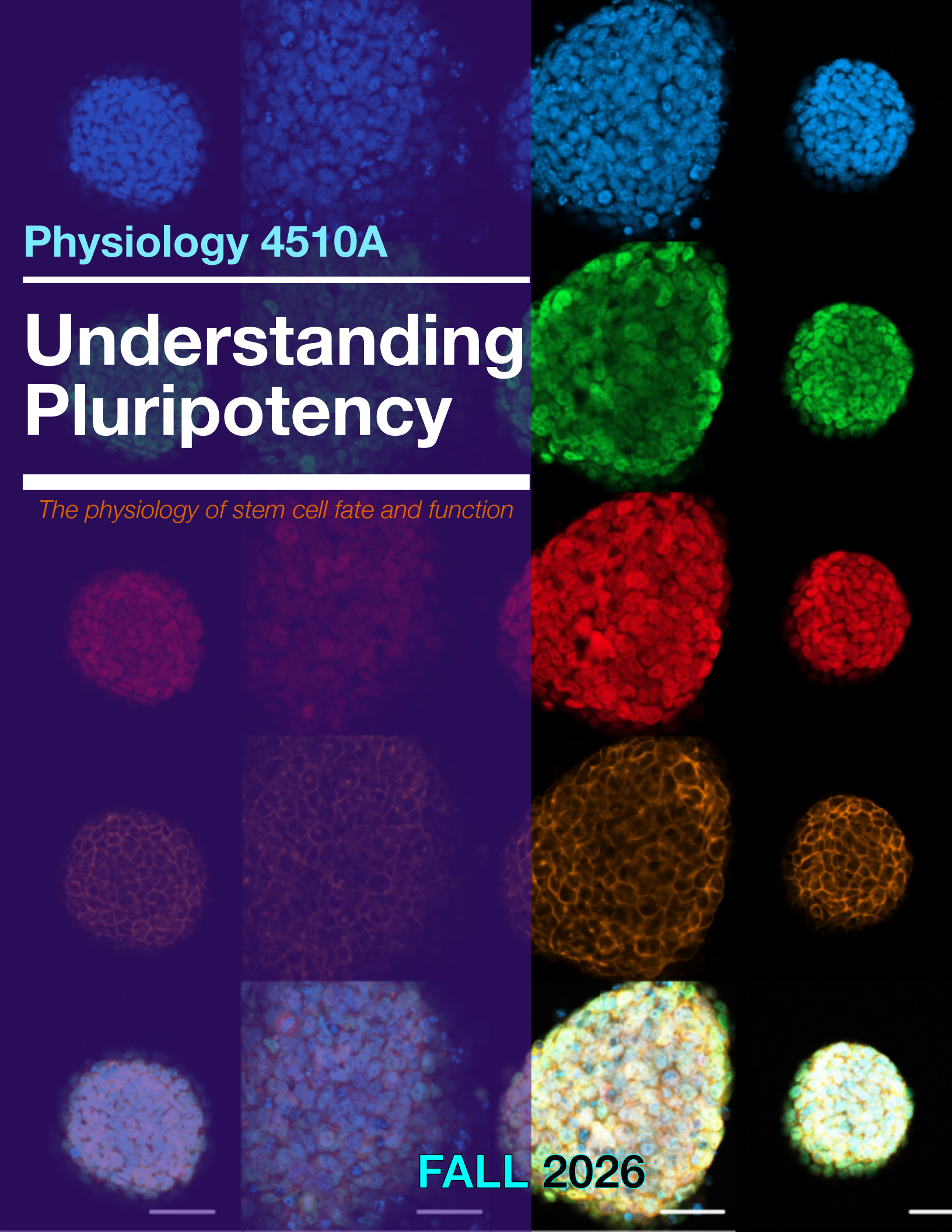




Physiology 4510A

Understanding Pluripotency

The physiology of stem cell fate and function

FALL 2026

Department of Physiology and Pharmacology

PHYSIOL 4510A Understanding Pluripotency: The physiology of stem cell fate and function

Course Outline for Fall 2026

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.

1. Technical Requirements:



Stable internet connection



Laptop or computer

2. Course Overview and Important Dates:



Delivery Mode	Dates	Time
In-person*	Thursdays	2:30 - 4:20 pm

* Details about design and delivery of the course are listed below in Section 4.

Classes Start	Reading Week	Classes End	Study Day	Exam Period
September 9	Oct. 10 - Oct. 18	December 9	December 10	December 11-22

September 30, 2026, is the National Day for Truth and Reconciliation; a non-instructional day.

September 17, 2026: Last day to add or drop a Fall 12-week course.

November 30, 2026: Last day to withdraw from a Fall 12-week course without academic penalty

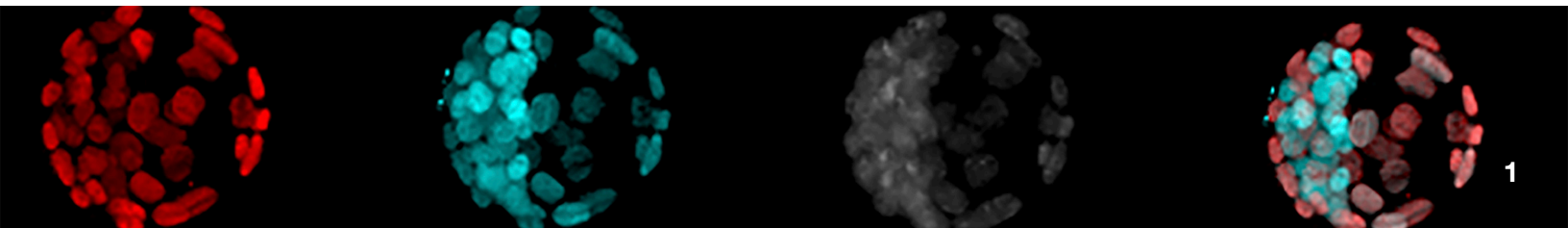
3. Contact Information:



Course Coordinator	Contact Information
Dr. Dean H. Betts	dean.betts@schulich.uwo.ca or dbetts@uwo.ca

Instructor	Contact Information
Dr. Jeffrey Hutchinson	jhutch48@uwo.ca

Teaching Assistant (TA)	Contact Information
Tehreem Fatima	tfatima9@uwo.ca



4. Course Description and Design:

Physiology 4510A: Understanding Pluripotency: The physiology of stem cell fate and function

Fall Term 2026

Pluripotent stem cell biology seeks to understand how the self-renewal and differentiation capabilities of these extraordinary cells are regulated to produce specialized cell types with a wide range of functions. This course will examine various current topics in the physiology of pluripotent stem cells. We will focus on the basic biology of embryo-derived stem cells and their potency. We will briefly cover pre- and post-implantation embryonic development, focusing on cell fate determination and the cell lines derived from these stages. We will discuss how these embryo-derived cell lines are isolated and tested, what factors enable their expansion, how they can be genetically manipulated, and what intrinsic and extrinsic factors regulate their self-renewal and cellular differentiation characteristics. We will also discuss pluripotent stem cells derived by somatic cell nuclear transfer and cellular reprogramming technologies. Understanding this physiology will enable students to thoroughly comprehend stem cell function and cell fate determination, assess whether regenerative medicine is feasible with pluripotent cells, and critically evaluate the ethical issues surrounding this field.

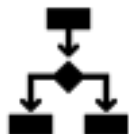
Requisites: Prerequisite(s): Physiology 3120, Physiology 3140A (or equivalent).

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.

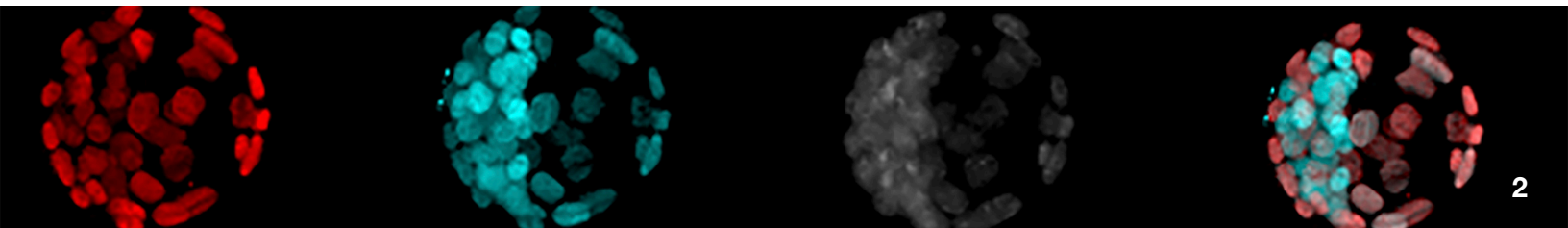
Delivery Mode:

Mode	Dates	Time	Frequency
Blended: In-person lectures and active learning modules #	Thursdays	2:30 - 4:20 pm	weekly

Western Active Learning Space (WALS, Room 2210 FNB)



- ☒ Asynchronous pre-work must be completed prior to synchronous sessions
- ☒ Attendance at sessions is required
- ☒ Missed work should be completed within 72 hours
- ☒ A recording may be provided for sessions



All course material will be posted to OWL Brightspace: <https://westernu.brightspace.com/d2l/login>. Any changes will be indicated on the OWL Brightspace site and discussed with the class.

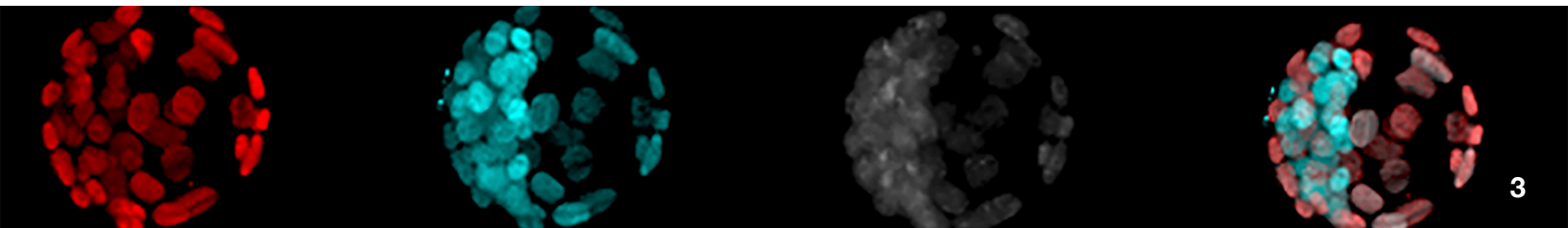
Students can seek support on the OWL Brightspace Help if they need assistance. Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

Current versions of all popular browsers (e.g., Safari, Chrome, Edge, Firefox) are supported with OWL Brightspace. Most importantly, you should update your browser regularly to keep it up to date. All JavaScript and cookies should be enabled.

5. Course Objectives and Learning Outcomes:

Course Objectives:

The main objective of this course is to introduce students to the fundamental molecular, physiological, and morphological events that regulate pluripotent stem cell biology. Additional objectives include enhancing students' ability to read and understand primary scientific literature, write effectively about science for a lay audience, and apply their knowledge of stem cell biology to solve biological problems by designing novel experiments and stem cell-based therapies. The course material will include didactic lectures but will also employ a flipped classroom approach, allowing students to conduct in-class exercises to thoroughly examine primary research journal articles, learn how to write scientific and lay articles, and design hypothesis-driven experiments effectively. Students will be expected to come prepared to discuss the content of assigned research articles in class and work independently outside the lectures. The lectures will focus mainly on the factors and signalling pathways that govern the development of the early embryo and embryo-derived stem cells, concentrating on the physiology, utility and ethical issues surrounding pluripotent stem cell technologies.



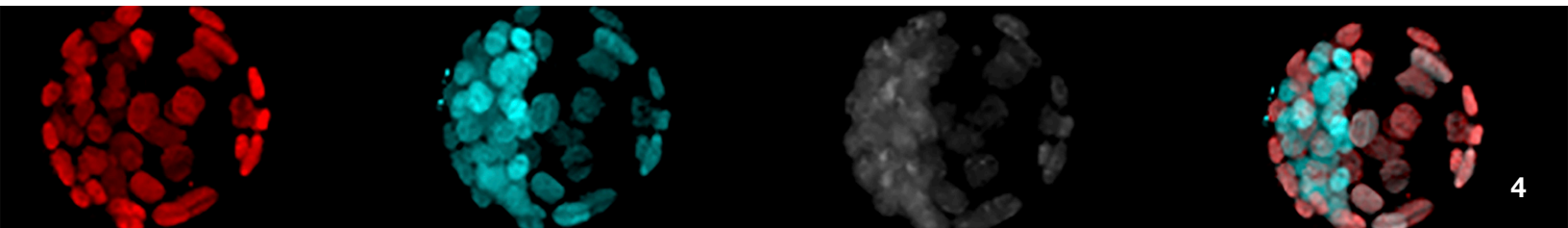
A student who has met the objectives of the course will be able to:

- 🌀 Explain the basic concepts of stem cell self-renewal and pluripotency and how these features are evaluated in the stem cell field.
- 🌀 Apply their understanding of the basic concepts and fundamental mechanisms that regulate pluripotent stem cells as it relates to developmental biology to solve problems/questions.
- 🌀 Navigate, understand and critically evaluate published stem cell research literature.
- 🌀 Debate current ethical issues that surround pluripotent stem cell biotechnologies.
- 🌀 Effectively communicate scientific knowledge about pluripotent stem cells to the lay public.

Method of Presentation: The course material will be presented through in-person didactic lectures and a partially flipped-classroom platform that includes problem-based learning exercises, informal in-class discussions, and debates.

Methods of Evaluation (Students will be expected to):

- 🌀 Actively participate in regular classroom discussions and debates.
- 🌀 Read assigned scientific papers *prior* to class.
- 🌀 Utilize current scientific literature in preparing assignments.
- 🌀 Translate research findings into a clear and accessible format for a non-academic audience.
- 🌀 Apply their learned basic science knowledge of the stem cell field to propose experiments to solve scientific problems/questions.
- 🌀 Write, in short answer essay format, on quizzes, the mid-term and final examinations.

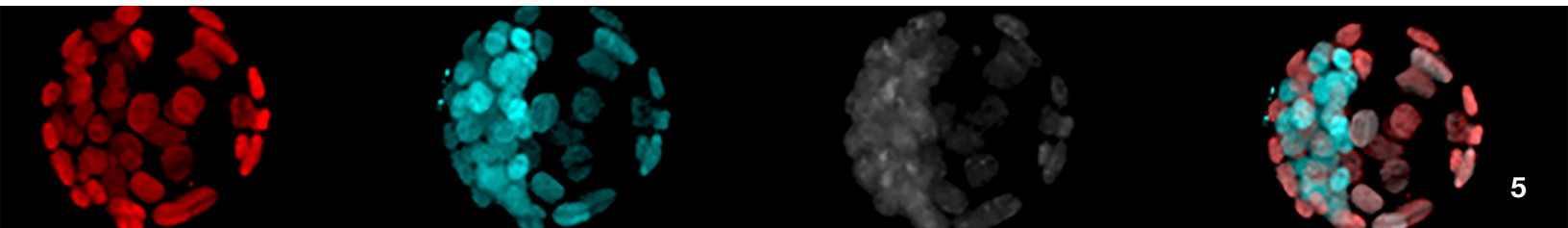


Course Learning Outcomes:



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

- Show a detailed understanding of key concepts and regulatory mechanisms that govern pluripotent stem cell function. This includes describing important concepts, applying your knowledge, integrating what you've learned, and critically evaluating and reflecting on major theories, practices, and ethical issues in the field.
- Exhibit a robust understanding of the scientific methodologies related to pluripotent stem cells by formulating hypotheses, designing experiments, analyzing and interpreting data, and making reasoned conclusions and improvements in experimental design based on published work.
- Interpret figures and provide appropriate descriptions while identifying the strengths and weaknesses of the information and the various research techniques utilized.
- Conduct literature searches and evaluate current research in pluripotent stem cell physiology to create a clear, and concise article for a general audience.
- Discuss various stem cell models and technologies, such as knockout versus knock-in and genome editing techniques. Apply different experimental procedures, including Western blotting and real-time RT-qPCR, to analyze and interpret scientific literature in the pluripotent stem cell field.
- Demonstrate the ability to critically evaluate, manage, reflect on, integrate, and apply knowledge of pluripotent stem cells to solve problem-based learning exercises and examination questions.
- Construct persuasive arguments to effectively debate complex ideas and relevant scientific or ethical issues. Recognize that scientific knowledge evolves, has various interpretations, and moral dilemmas are not always straightforward choices between opposing views.



6. Course Content and Schedule:



- **In-person components:** Thursdays, 2:30 - 4:20, Western Active Learning Space (WALS), FIMS and Nursing Building (FNB), Room 2210
- Asynchronous course material (recorded lectures, readings) will be available through OWL Brightspace
- Remote synchronous course activities (**if necessary**) will be on Thursdays, 2:30 - 4:20 via Zoom (online link will be provided)

#	DATE	TOPIC (Instructor)	Instructor(s)
1	Sept. 10	History of Pluripotent Stem Cells; Fundamental principles of pluripotent stem cells; Introduce Pluripotent Stem Cell Infographic Assignment	Betts
2	Sept. 17	Cell Differentiation/Lineage Restriction	Hutchinson
3	Sept. 24	Embryonic Stem Cells and Pluripotency; Learning activity	Hutchinson
4	Oct. 1	Extracellular Signals to Direct Stem Cell Differentiation	Hutchinson
5	Oct. 8	Intracellular Signals to Direct Stem Cell Differentiation	Hutchinson
6	Oct. 15	No class, Reading Week (October 12th - 16th)	N/A
7	Oct. 22	Somatic Cell Cloning and Epigenetic Reprogramming in Mammals	Betts
8	Oct. 29	Induced Pluripotent Stem Cells; Paper discussion	Betts
9	Nov. 5	"Big Data Approaches and Genetic Manipulation of Pluripotent Stem Cells"	Betts
10	Nov. 12	"Ethical Issues Surrounding Pluripotent Stem Cells" In class activity to play "decide" ethics kit on pluripotent stem cell issue	Betts/ Hutchinson
11	Nov. 19	In class "jigsaw" presentations with class discussions	Betts/ Hutchinson
12	Nov. 26	Cell-Based Therapies from Pluripotent Stem Cells; in-person meetings with each group to discuss initial ideas	Betts
13	Dec. 3	Design your own pluripotent stem cell based therapy - in person session with entire class to view and discuss group therapies	Betts

* Journal papers and exercises for these weekly topics will be made available on the course OWL Brightspace site at least the week before each in-person/virtual session.

7. Participation and Engagement:



- ☒ Students are expected to participate and engage with content as much as possible.
- ☒ Students can participate during sessions or post on OWL Brightspace if attendance in-person is not possible.
- ☒ Students can also participate by interaction in the discussion board 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
Stem Cell Infographic	Digital infographic and layperson abstract	10%	Oct. 2, 2026	72-hr no late penalty
Mid-term test	In-person, short and long answer (based on first 7 lectures)	35%	TBD	Not applicable
Mid-term make-up test (if necessary)	In-person, short and long answer	[35%]	TBD	Not applicable
Jigsaw Presentations	In-person	15%	Nov. 19, 2026	Not applicable
Final Exam	In-person, short / long answer (cumulative)	40%	Dec. exam period	Not applicable
Total Marks		100%		

The in-person midterm test (2 hrs) and in-person final exam (3 hrs) will consist of short- and long-answer, essay-type questions developed from lectures, assigned readings/exercises, and other presented material. The final exam will be cumulative, with emphasis on the second half of the course.

Designated Assessment: Instructors are permitted to designate one assessment per course per term as requiring supporting documentation to receive academic consideration. To receive academic consideration for our **in-class midterm test**, supporting documentation is required. See below for information on the academic consideration policy and missed coursework.

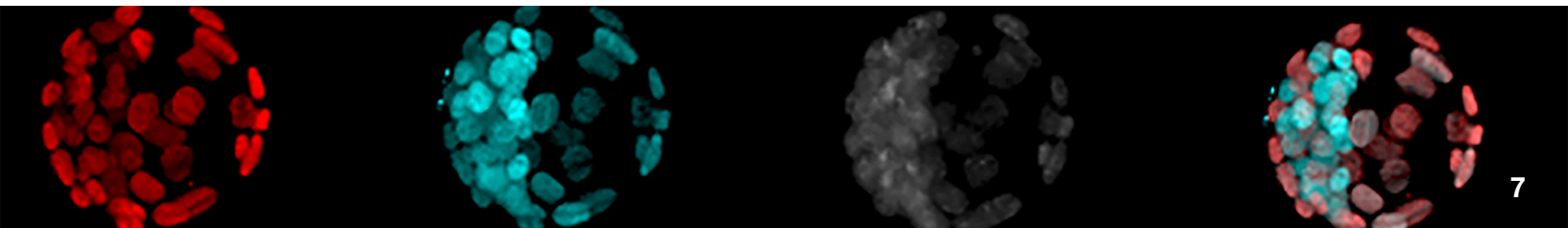
Information about flexibility in assessments:

- ☒ Flexibility in assessment has been applied to this course; therefore, academic consideration requests may be denied on the assessments where flexibility is included
- ☒ A 72-hour no late penalty has been applied to our Stem Cell Infographic and Layperson Article Assignments



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 (e.g. Jigsaw Presentation).



☒ After an assessment is returned, students should wait 24 hrs 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.

☒ Before 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 instructor's decision or has not received a decision from the instructor, a written request for relief must be submitted to the Undergraduate Chair within three (3) weeks from the date 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 assignments can be submitted within 72 hours of the official submission date without penalty and thereafter be subject to a late penalty of 10% per day.

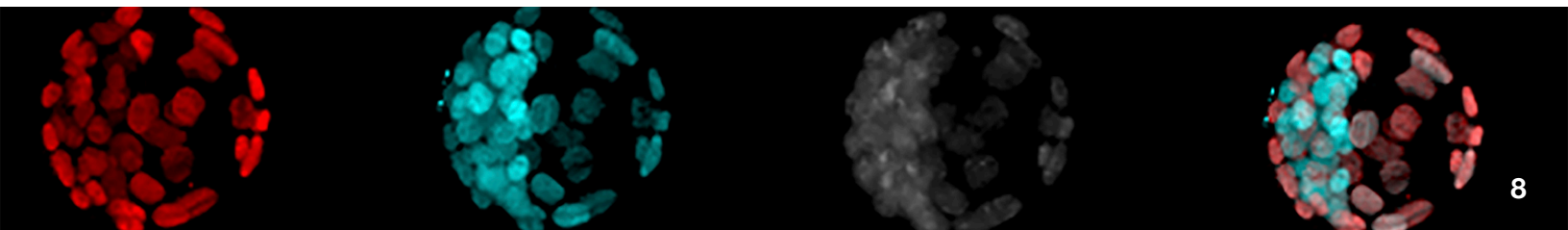
☒ An assignment cannot be submitted after it has been returned to the class; an **alternate** assessment will be assigned, **or** the weight of a missed assignment will be transferred to the midterm or final exam.

☒ A single makeup midterm test will be offered Nov. 4, 2026, and the weight of a missed test will be transferred to the final exam.

☒ Make-up assessments may be in a different format than the original assessment (e.g. Jigsaw)

☒ Only one special final examination (see below) will be offered in January.

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 for the final exam, 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 the [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.

Policy on the Rounding and Bumping of Marks:

Across the Basic Medical Sciences Undergraduate Education programs, we strive to maintain high standards that reflect the effort that 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.

9. Communication:

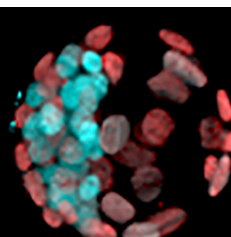
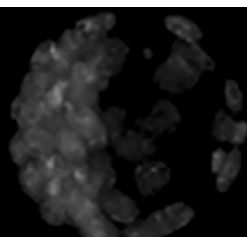
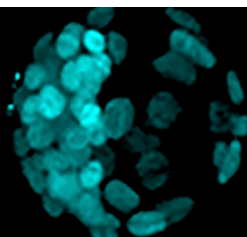
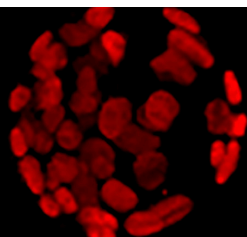


- ☒ Students should check the OWL Brightspace site every 24 - 48 hours
- ☒ A weekly update will be provided on the OWL announcements
- ☒ Students should email their instructor(s) and teaching assistant(s)
- ☒ Emails will be monitored daily; students will receive a response in 24 – 48 hours
- ☒ This course will use discussions on OWL Brightspace
- ☒ Students should post all course-related content on the discussion forum so that everyone can access answers to questions
- ☒ The discussion forums will be monitored daily by instructors or teaching assistants

10. Office Hours:



- ☒ Office hours with individuals will be held in-person or remotely using Zoom
- ☒ Students will be able to sign up for an appointment using Email



11. Course Materials:



- ☒ All resources will be posted in OWL Brightspace
- ☒ **No** required textbook
- ☒ **No** required study guide
- ☒ Additional resources (**optional**):

1. Atala A, Lanza R. Handbook of Stem Cells. Volume 1: Pluripotent Stem Cells and Cell Biology (2nd ed). Elsevier Academic Press; 2012.
2. StemBook [Internet]. Cambridge (MA): Harvard Stem Cell Institute; 2008-. Available [online](#).
3. Lanza RP, Langer RS, Vacanti J. Principles of tissue engineering (ed 3rd). Amsterdam; Boston: Elsevier Academic Press; 2007.
4. Gilbert, SF. Developmental Biology (ed 6th). Available [online](#).

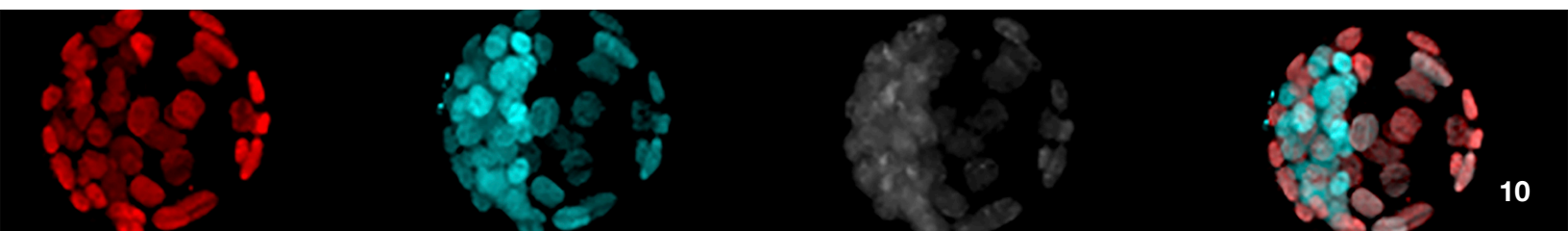
Supplemental Information: Published journal articles will be provided for downloading from OWL Brightspace as **required reading** for lectures. Students are encouraged to scan the scientific literature and read reviews and/or primary research articles in the field of stem cell biology. Examples of such *journals*: *Cell Stem Cells*, *Cellular Reprogramming*, *Current Stem Cell Research*, *Development*, *Journal of Cell Science*, *Journal of Biological Chemistry*, *Nature journals*, *Proc Natl Acad Sci U S A*, *Science*, *Stem Cells*, *Stem Cell Reports*, *Stem Cells and Development*.

12. Professionalism and 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
- ☒ 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).

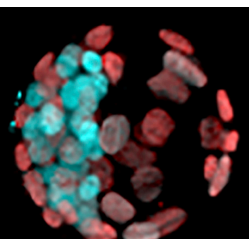
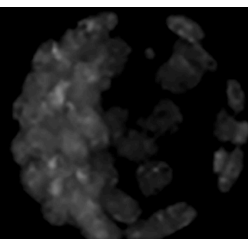
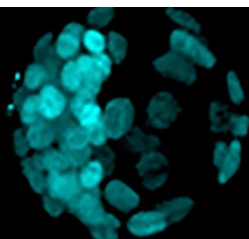
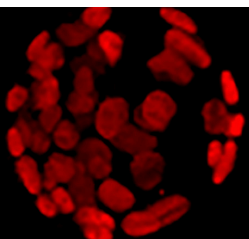
Any **student**, staff, or faculty member who experiences or witnesses' behaviour that may be harassment or discrimination **must report the behaviour** to the [Western's Human Rights Office](#). Harassment and discrimination can be human rights-based, which is also known as EDI-based, (sexism, racism, transphobia, homophobia, islamophobia, xenophobia, antisemitism, and ableism) or non-human rights-based (personal harassment or workplace harassment).

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 time at the start of each week to get organized and manage your time.
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. 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. 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).
6. Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
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 [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing coursework 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 assessments not required for calculation of the final grade (e.g., 8 out of 10 quizzes) or flexibility in the submission timeframe (e.g., a 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](#)

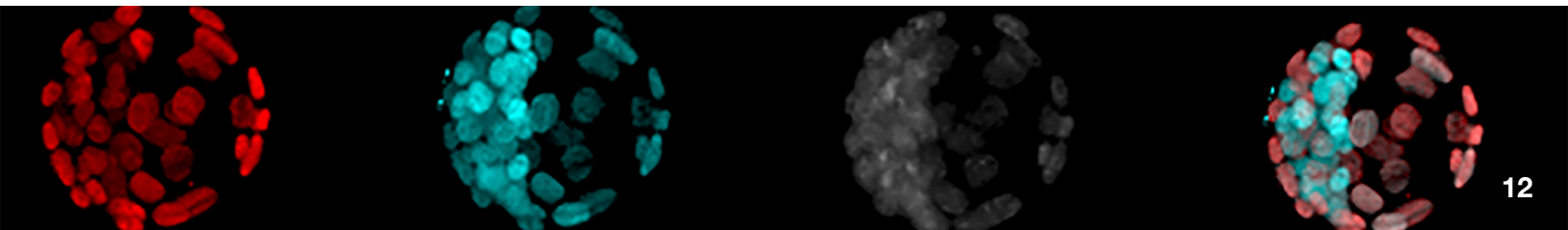
Religious Holidays

Students should review the policy for Accommodation for Religious Holidays (Appendix 1). If 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 no 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 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 Examination 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 the academic decision-making process was formally referred to as an appeal. Refer to the policy and procedures for 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** certain academic and scholastic disciplinary decisions made 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 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 questions regarding an accommodation.

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

D. Correspondence Statement

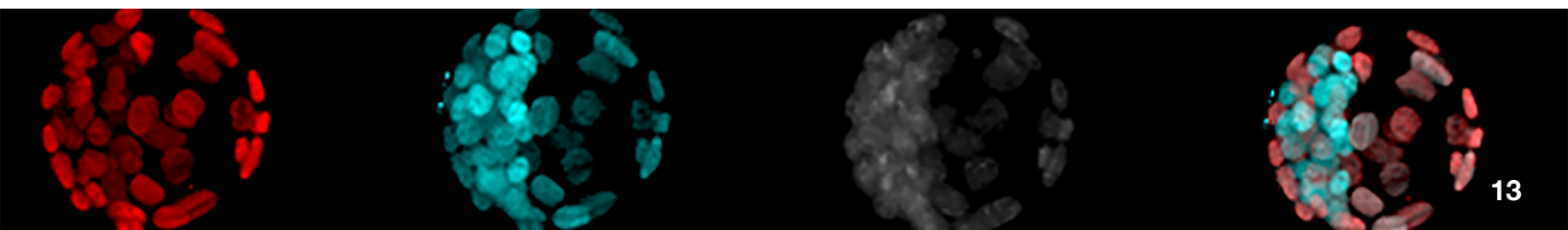
The centrally administered **e-mail account** provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mails received from the University at his/her official university address are attended to in a timely 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

No electronic devices will be allowed during tests and examinations.

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

Within this course, students are permitted to use AI tools exclusively for gathering information and conducting preliminary research. These tools are designed to enhance the learning experience by providing access to a diverse range of 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 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' 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.

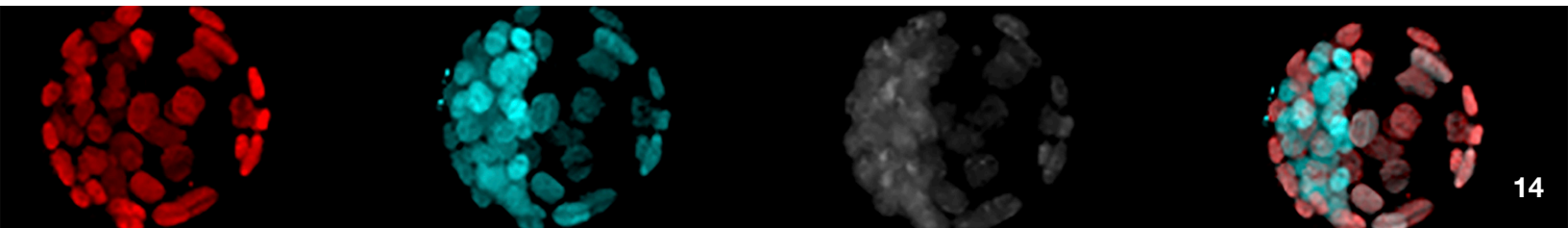
H. Turnitin and other similarity review software

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 in place between Western University and [Turnitin.com](https://www.turnitin.com).

15. 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, such as cell phones, tablets, cameras, smart glasses, smartwatches, or iPods, 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 solely on their actual achievements. **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, a grade of 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](#)

16. Support Services

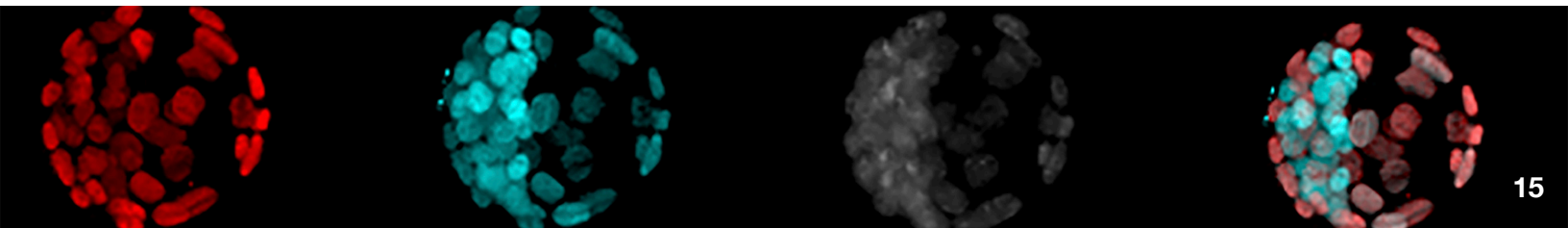
Students who are in emotional/mental distress should refer to Mental Health @Western <https://www.uwo.ca/health/> for a complete list of options about how to obtain help.

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/student_support/survivor_support/get-help.html

To connect with a case manager or schedule an appointment, please email 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 accompanying 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



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