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

**1. Technical Requirements:**
- Stable internet connection
- Laptop or computer
- Working microphone
- Working webcam

**2. Course Overview and Important Dates:**

<table>
<thead>
<tr>
<th>Delivery Mode</th>
<th>Dates</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>In person (unless otherwise advised)</td>
<td>Mondays</td>
<td>12:30-2:30 pm</td>
</tr>
<tr>
<td></td>
<td>Wednesdays</td>
<td>10:30-11:30 am</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Classes Start</th>
<th>Reading Week</th>
<th>Classes End</th>
<th>Study day(s)</th>
<th>Exam Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 8</td>
<td>November 1-7</td>
<td>December 8</td>
<td>December 9</td>
<td>December 10-21</td>
</tr>
</tbody>
</table>

*November 12, 2021: Last day to drop a first-term half course without penalty*

**3. Contact Information**

<table>
<thead>
<tr>
<th>Course Coordinator</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Dale W. Laird</td>
<td><a href="mailto:Dale.laird@schulich.uwo.ca">Dale.laird@schulich.uwo.ca</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructor(s) or Teaching Assistant(s)</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Paul Walton</td>
<td><a href="mailto:Pwalton@uwo.ca">Pwalton@uwo.ca</a></td>
</tr>
<tr>
<td>Dr. Patrick Lajoie</td>
<td><a href="mailto:Plajoie3@uwo.ca">Plajoie3@uwo.ca</a></td>
</tr>
<tr>
<td>Brooke O’Donnell (T/A)</td>
<td><a href="mailto:Bodonne3@uwo.ca">Bodonne3@uwo.ca</a></td>
</tr>
</tbody>
</table>
4. Course Description and Design

Students will examine the controversial social/ethical parameters that guide bench-to-bedside experimentation and clinical translation with a particular focus on the cell biology associated with human stem cells, cloning, and genetic screening and editing. Other modules will present the advanced cell biological principles and the research pathways that lead to new discoveries related to the cytoskeleton and extracellular matrix, and cancer cell biology. Students will also be trained in effective debating, scientific presentations and critical review.

Prerequisite(s): Biology 3316A/B or Physiology 3140A (minimum mark of 70%) or Biology 3309 (minimum mark of 75%)
Co-requisite(s): none
Anti-requisite(s): none

<table>
<thead>
<tr>
<th>Mode</th>
<th>Dates</th>
<th>Time</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>In person</td>
<td>Monday</td>
<td>12:30-2:30 pm</td>
<td>Weekly</td>
</tr>
<tr>
<td></td>
<td>Wednesday</td>
<td>10:30-11:30 pm</td>
<td>Weekly</td>
</tr>
<tr>
<td>Virtual asynchronous</td>
<td>N/A</td>
<td>As requested</td>
<td>Weekly</td>
</tr>
</tbody>
</table>

- Asynchronous pre-work must be completed prior to relevant synchronous sessions
- Attendance at sessions is required
- Missed work should be completed within 24 hours
- A recording may be provided for some synchronous sessions at the discretion of the instructor
- Closed captioning will be provided on audio or video recordings as requested

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.

NOTE: In the event of a COVID-19 resurgence during the course that necessitates moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at times indicates in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The mode of course delivery will be decided by the instructor at the time of the disruption. The grading scheme will not change. Any remaining assessments will also be conducted online at the discretion of the instructor.
5. Learning Outcomes

Overview of Course: This advanced experimental cell biology course is targeted primarily to advanced cell biology students. This course has three objectives: a) to present students with current information and the state of knowledge in specific area(s) of cell biology from the viewpoint of experimental research and discovery, b) to teach students research skills on how to review, criticize, write, discuss and present experimental results and c) to discuss ethical/societal issues that are rooted in recent advances in cell biology (e.g., stem cells, genetics).

Introduction to the course: Dr. Laird
A: Ethics in Cell Biology: Dr. Laird (~4 weeks)
  a) Human stem cell biology
  b) Therapeutic and reproductive human cloning
  c) Genetic screening, diagnosis and editing
Research skill = Students will engage in a research debate on an ethical question in medical cell biology.
*Students who are absent for their assigned debate will be required to submit a 5-page written paper on a topic to be assigned.

B: The Cytoskeleton and Extracellular Matrix in Cell Adhesion and Motility: Dr. Walton (~4 weeks)
  a) Cell adhesion molecules and structural junctions
  b) Actin filaments and cell motility
  c) The extracellular matrix (ECM)
  d) The role of the cytoskeleton and ECM in directing cell behavior in the context of cell-based regenerative therapies
Research skill = Students will analyze data presented in assigned journal articles and present a critical review to the class, in addition to preparing a written critical review.
*Students who are absent for their assigned presentation date will be required to submit an additional 5-page written review in place of the classroom presentation.

C: Cell Biology of Cancer: Dr. Lajoie (~4 weeks)
  a) Multi-steps to cancer development and progression
  b) Cell surface receptors and signal transduction in cancer
  c) Heterotypic cell interactions and the tumor microenvironment
  d) Cellular approaches to targeted cancer therapy
Research skill = Students will organize research data in the form of a poster and present the poster to the class.
Upon successful completion of this course, students will be able to:

- Discuss current issues in medical bioethics
- Understand the underpinning cell biology that leads to ethical debates
- Interrogate and critically review research papers
- Understand the molecular mechanisms that guide cell behavior
- Communicate research discoveries in the form of a poster
- Understand the cell biology basis of cancer

6. Course Content and Schedule

Introduction: Introduction to the course (Laird)
- Wednesday Sept. 8th

Module 1: Ethics in Cell Biology (Laird)
- Begin: Monday Sept 13th and finished: Monday Oct. 4th (3 Wed, 4 Mon)
- Research Skill: *Debating
- Test: Position paper (take home)
- *Students who are absent for their assigned debate will be required to submit a 5-page written paper on a topic to be assigned.

Module 2: The Cytoskeleton and Extracellular Matrix in Cell Adhesion and Motility (Walton)
- Begin: Wednesday Oct 6th and finished: Wednesday Nov. 10th (5 Wed, 3 Mon)
- Research Skill: *Critical Paper Presentations
- Test: Written critical journal article review (take home)
- Thanksgiving Oct. 11; Reading week Nov. 1st to 7th
- *Students who are absent for their assigned presentation date will be required to submit an additional 5-page written review in place of the classroom presentation.

Module 3: Cell Biology of Cancer (LaJoie)
- Begin: Monday Nov 15th and finished: Wednesday Dec 8th (4 Wed, 4 Mon)
- Research Skill: Poster Presentations
- Test: Take home
- Last day of class is December 8th
7. Online Participation and Engagement

- Students are expected to participate and engage with all content
- Students can participate during classes by asking questions about the course content
- Students can also participate by interacting in the forums with their peers

8. Evaluation

<table>
<thead>
<tr>
<th>Component</th>
<th>Date Mark Available</th>
<th>% of Final Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 intra-term Modules of equal weighting</td>
<td>~2nd week of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>October</td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>33.4%</td>
</tr>
</tbody>
</table>

Further details on the marking scheme for each module will be provided at the beginning of each module.

Final exam: none
All assignments are due at the times specified by the Instructor

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 made available at the discretion of the Instructor

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

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
<td>One could scarcely expect better from a student at this level</td>
</tr>
<tr>
<td>A</td>
<td>80-89</td>
<td>Superior work which is clearly above average</td>
</tr>
<tr>
<td>B</td>
<td>70-79</td>
<td>Good work, meeting all requirements, and eminently satisfactory</td>
</tr>
<tr>
<td>C</td>
<td>60-69</td>
<td>Competent work, meeting requirements</td>
</tr>
<tr>
<td>D</td>
<td>50-59</td>
<td>Fair work, minimally acceptable</td>
</tr>
<tr>
<td>F</td>
<td>below 50</td>
<td>Fail</td>
</tr>
</tbody>
</table>

Information about late or missed evaluations:

- Late assessments without illness self-reports will be subject to a late penalty at the discretion of the Instructor
- Late assessments with illness self-reports should be submitted within 24 hours of submission of the last illness self-report
- An assessment cannot be submitted after it has been returned to the class; an alternate assessment will be assigned
- If a make-up assessment is missed, the student will receive an INC and complete the task the next time the course is offered

9. Communication:

- Students should check the OWL site every 24 – 48 hours
- Course updates will be provided on the OWL announcements as needed
- Emails will be monitored daily; students will normally receive a response in 24 – 48 hours
- This course will use ZOOM for synchronous sessions
- This course will use the OWL forum for discussions
- 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/weekly by instructors or teaching assistants
10. Office Hours:
- Office hours are at the discretion of each instructor and normally set-up on demand
- Students will be able to sign up for an appointment using email

11. Resources
- All resources will be posted in OWL

12. Professionalism & Privacy:
Western students are expected to follow the [Student Code of Conduct](#). Additionally, the following expectations and professional conduct apply to this course:
- Students are expected to follow online etiquette expectations provided on OWL
- 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
- Any permitted recordings are not to be distributed
- Students will be expected to take an academic integrity pledge before some assessments

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 to ensure you have seen everything posted to help you succeed in this class.

3. Take notes as you go through the lesson material. Treat this course as you would any 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.

4. Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support in keeping with community health guidelines.

5. Do not be afraid to ask questions. If you are struggling with a topic, contact your instructor(s) and or teaching assistant(s).

6. 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

**Absence from Course Commitments**

[Policy on Academic Consideration for Student Absences](#)
If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a **self-reported absence** or via the **Academic Counselling** unit. Students have two self-reports to use throughout the academic year; absence from course commitments including tests, quizzes, presentations, labs, and assignments that are worth 30% or less can be self-reported. Self-reported absences cover a student for 48 hours (yesterday + today or today + tomorrow). Your instructor will receive notification of your consideration; however, you should contact your instructor immediately regarding your absence. Students are expected to submit missed work within 24 hours of the end of the 48-hour period. Please review details of the [university’s policy on academic consideration for student absences](#).

If you have used both their self-reported absences or will miss more than 48 hours of course requirements, a **Student Medical Certificate (SMC)** should be signed by a licensed medical or mental health practitioner and you should contact academic counselling. Academic Counselling will be operating virtually this year and can be contacted at [scibmsac@uwo.ca](mailto:scibmsac@uwo.ca).

**Accommodation for Religious Holidays**

The policy on Accommodation for Religious Holidays can be viewed [here](#).

**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](#).

**Academic Offenses**

“Scholastic offences are taken seriously, and students are directed [here](#) to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

**Accessibility Statement**

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#).

**Correspondence Statement**

The centrally administered **e-mail account** provided to students will be considered the individual’s official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts [here](#).

**Discovery Credit Statement**

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

All assignments will be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. Students will be able to view their results before the final submission. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western University and Turnitin.com.

15. 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, i.e., cell phones, tablets, cameras, 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., 74.4 becomes 74, and 74.5 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

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

Academic Counselling (Science and Basic Medical Sciences)

Appeal Procedures

Registrarial Services

Student Development Services

Student Health Services