

Physiology & Pharmacology
Physiology 4730B: Cell Signaling in Tissue Injury & Repair

Course outline for Winter 2021



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](#) 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/>.

1. Technical Requirements:



Stable internet connection



Laptop or computer



Working microphone



Working webcam

2. Course Overview and Important Dates:



Delivery Mode	Dates	Time
On-line	Wednesday	1:30-3:30 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
January 11	February 13 - 21	April 5	April 13	April 14 - 30

*March 14, 2021: Last day to drop a second-term half course or a second-term full course without penalty

3. Contact Information



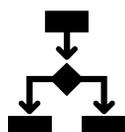
Course Coordinator	Contact Information
Sean Cregan	scregan@uwo.ca

Instructor(s)	Contact Information
Rithwik Ramachandran	rrmach@uwo.ca

4. Course Description and Design

Cellular and molecular physiology is an exciting and rapidly changing area of biology. Physiology 4730B is a one-term half-course designed to introduce students to advanced concepts and current research focused on cell signaling pathways that regulate cellular function and promote survival, repair and regeneration. The models studied will include the nervous system and various peripheral systems and relevant pathologies with an emphasis on therapeutic approaches. Reference to published scientific literature will be used as appropriate. The format of the course will be a series of lectures on the selected topics introduced by two faculty members. Students are expected to be able to recall and critically evaluate facts, recognize general concepts, use new information to solve problems, be aware of the historical development of the research field, and be familiar with current literature and research methods. Students will also be responsible for presenting, critiquing and discussing research papers in group formats.

Pre-requisite course: Physiology 3120



Mode	Dates	Time	Frequency
Q&A: Virtual synchronous	Wednesday	2:00-2:30 pm	Mostly weekly
Quizzes: Virtual synchronous	Wednesday	1:30-1:45 pm	Indicated dates
Student Presentations: Virtual asynchronous	N/A		
Lectures: Asynchronous	Released Fridays	N/A	Weekly

- Attendance at synchronous sessions is required
- A recording will be provided for synchronous sessions
- Student Presentations will be conducted asynchronously using a virtual format

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](#).

5. Learning Outcomes

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



1. Define key signaling pathways involved in the response to injury.
2. Apply knowledge of cell signaling pathways to suggest novel therapeutic strategies for enhancing tissue repair after injury.
3. Define key concepts in tissue regeneration and the limitations of current strategies.
4. Analyze and interpret data from literature publications in the area of tissue injury and repair and explain the methods used to generate data.

6. Course Content and Schedule



Week	Dates	Topic	Instructor
1	Jan 13	Mechanisms of neuronal injury & degeneration	Cregan
2	Jan 20	Neuroinflammation	Cregan
3	Jan 27	Mechanisms of cell death	Cregan
4	Feb 3	Stem cells in repair & regeneration	Cregan
5	Feb 10	Student Presentations 1/ Quiz 1	Cregan
6	Feb 15 – 21	Reading Week	
7	Feb 24	Student Presentations 2/ Quiz 2	Cregan
8	Mar 3	Midterm Exam	
9	Mar 10	Homeostasis & Thrombosis	Ramachandran
10	Mar 17	Peripheral Inflammation	Ramachandran
11	Mar 24	Cell migration, proliferation & remodeling	Ramachandran
12	Mar 31	Student Presentations 3/ Quiz 3	Cregan
13	Apr 7	Student Presentations 4/ Quiz 4	Cregan
14	Apr 14-30	Final Exam	

7. Online Participation and Engagement



- Students are expected to participate and engage during lectures and to view peer presentations
- Students can also participate by interacting in the forums with their peers and instructors

8. Evaluation

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

Assessment	Format	Weighting	Due Date
Midterm Exam	Written assignment	35%	March 2nd
Student Presentation	Voice Thread	15%	TBD
Quizzes (4)	Multiple Choice	15%	TBD
Final Exam	Written Assignment	35%	TBD

- Student Presentations are to the OWL course website by 1:30 PM EST on the assigned date
- Quizzes will be completed on the course OWL website at 1:30 pm on the assigned dates and must be completed and submitted by 1:45 pm (15-minute window).
- Written Assignments for Midterm and Final exams are due at 11:55 pm EST on the assigned dates
- 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
- 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.



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 evaluations:

Student Presentations and Midterm/ Final Exam Assignments: Students are provided a minimum of 2 weeks to complete the assignments. If the student is unable to complete the assignment by the due date the following will apply:

- Late assessments without a self-reported absence or approved documentation to academic counselling will be subject to a late penalty of 20%/day
- Late assessments with a self-reported absence should be submitted within 24 hours of submission of the last day of the self-reported absence. In the case of an extended illness lasting greater than 2 weeks the student will receive an INC and complete the task the next time the course is offered unless alternate arrangements have been made with the course co-ordinator (Dr. Cregan).

Presentation Quizzes:

- Quizzes missed without a self-reported absence or documentation will be given a zero.
- Quizzes missed with a self-reported absence or documentation will be re-weighted based on other quiz scores.

9. Communication:



- Students should check the OWL site every 24 – 48 hours
- A weekly update will be provided on the OWL announcements
- Emails will be monitored daily; students will receive a response in 24 – 48 hours
- This course will use Microsoft Teams for discussions
- 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 by instructors or teaching assistants

10. Office Hours:



- Office hours will be held remotely using ZOOM on Monday afternoons between 2-4pm (alternate times can be arranged if student is not available during this time).
- Students will be able to sign up for an appointment using OWL sign-up

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
- Permitted recordings are not to be distributed
- Students will be expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed

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. Follow weekly checklists created on OWL 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. 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

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.

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](#).

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

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