

**The Department of Physiology and Pharmacology**  
**Neuropharmacology 4380B**  
Course outline for Winter 2023



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

**2. Important Dates:**



Classes Begin	Classes End
Monday, January 9, 2023	Monday, April 10, 2023

\* March 7, 2023: Last day to drop a second-term half course without penalty

Reading Week	Study day(s)	Exam Period
February 18–26	April 11-12	April 13-30

**3. Contact Information**



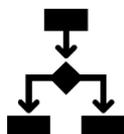
Course Coordinator	Contact Information
Vania Prado	vprado@uwo.ca

Instructor	Contact Information
Vania Prado	vprado@uwo.ca
Jane Rylett	jane.rylett@schulich.uwo.ca

#### 4. Course Description and Design

This course will cover the cellular and molecular mechanisms underlying the actions of drugs on the central and peripheral nervous systems. Lectures will focus on recent developments in the field of neuroscience and their impact on our understanding of the actions, and development of, new drugs.

Mode	Dates	Time	Frequency
In person	Tuesday/MSB 384	12:30-2:30	weekly



- Attendance at sessions is required
- Missed work should be completed within 72 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. Please 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:

- Identify critical aspects from research articles through in-class (or virtual) presentation and discussion as well as through independent written report.
- Identify and describe different types of genetically modified mouse models (transgenics, knock-outs, knock-ins) as well as different methodologies available to modulate neurotransmission (optogenetics, chemogenetics, etc) and their use on better understanding neurological diseases.
- Describe cellular and molecular mechanisms underlying diseases of the nervous system such as Alzheimer disease, Parkinson disease, and mechanism of action of drugs used in the treatment.



## 6. Course Content and Schedule



Week	Dates	Topic	Mode	Instructor
1	Jan 10	Introduction to the course	In person	V. Prado
2	Jan 17	Neurotransmission	In person	V. Prado
3	Jan 24	Paper neurotransmission – P#1	In person	V. Prado
4	Jan 31	Tools for research and therapeutics	In person	V. Prado
5	Feb 07	Paper Tools for research and therapeutics – P#2	In person	V. Prado
6	Feb 14	Clinical trials- CRISPR P#3 and Optogenetics P#4	In person	V. Prado
7	Feb 19 - 26	Reading Week	N/A	N/A
8	Feb 28	Midterm exam	In person	V. Prado
9	Mar 07	Cholinergic transmission – Alzheimer's disease	In person	J. Rylett
10	Mar 14	Paper AD – P#5	In person	J. Rylett
11	Mar 21	Dopaminergic transmission Parkinson's Disease	Virtual	J. Rylett
12	Mar 28	Paper Parkinson's Disease – P#6	In person	J. Rylett
13	Apr 4	Clinical trials- AD P#7 and PD P#8	In person	J. Rylett
14	Apr 10-30	Final exam	In person	TBD

## 7. Online Participation and Engagement



- Students are expected to participate and engage with content as much as possible
- 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
Paper or Clinical Trial presentation	In person	20%
Participation on Paper/Clinical Trial discussion	In person	2% (total: 14%)
Midterm test	In person	30%
Final exam	In person	36%



- All assignments are due at 12:00 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
- Any grade appeals on assignments, or midterms must be received within 3 weeks of the grade being posted.

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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

- Late assessments without accommodation will be subject to a late penalty of 10 %/day
- A written makeup assignment will be offered to replace missed work less than 10%. Make-up should be completed within 72 hours after the missed assignment.
- There will be one scheduled makeup midterm exam. In the case the makeup midterm is also missed with accommodations, the weight of the midterm exam will be transferred to the final exam.
- A paper presentation (+ discussion), a clinical trial presentation, and the final exam must be completed to pass the course. If one of these activities is missed, the student will receive an INC and complete the task the next time the course is offered

**INC (Incomplete Standing):** If a student has been approved by the Academic Counselling 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 Counselling 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 Counselling Office to write a Special Examination and the final exam is the only outstanding course component, an SPC will be assigned. If the class has a makeup exam, the student is expected to write the makeup exam. If the class doesn't have a makeup exam or the student misses the makeup exam for reasons approved by the Academic Counselling Office, the student will write the exam the next time the course is offered. Outstanding SPCs will reduce the course load for the term the exam is deferred as outlined in [Types of Examinations](#) policy.

## 9. Communication:



- Students should check the OWL site every 24 – 48 hours
- Students should email their instructor(s).
- Emails will be monitored daily; students will receive a response in 24–48 hours
- 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

## 10. Office Hours:



- Office hours will be held on Wednesdays from 3-4 pm remotely using Zoom
- Students will be able to sign up for an appointment using OWL (Sign Up on OWL)
- Group office hours will be held, recorded, and posted for everyone to view

## 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
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed



Western is committed to providing a learning and working environment that is free of harassment and discrimination. All **students**, staff, and faculty have a role in this commitment and have 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-base (sexism, racism, transphobia, homophobia, islamophobia, xenophobia, antisemitism, and ableism) or non-human rights-based (personal harassment or workplace harassment).

### 13. How to Be Successful in this Class:

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.



1. Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule your time throughout the course.
2. Make it a daily habit to log onto OWL 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. 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

##### A. Absence for medical illness:

Students must familiarize themselves with the [Accommodation for Illness Policy](#).

A student seeking academic accommodation for any **work worth less than 10%** must contact the instructor or follow the appropriate Department or course specific instructions provided on the course outline. Instructors will use good judgment and ensure fair treatment for all students when considering these requests. You are not required to disclose details about your situation to your instructor; documentation is not required in this situation, and you should not send any pictures to your instructor.

If you are unable to meet a course requirement for any **work worth 10% or greater** due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Academic Counseling as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. Please note that the format of a make-up test, exam, or assignment is at the discretion of the course coordinator.

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found at: [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf).

##### B. Absence for non-medical reasons:

Student absences might also be approved for non-medical reasons such as religious holidays and compassionate situations. Please review the policy on [Accommodation for Religious Holidays](#). All non-medical requests must be processed by Academic Counselling. Not all absences will be approved; pay attention to the academic calendar and final exam period when booking any trips.

## C. 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.

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

[https://www.uwo.ca/health/student\\_support/survivor\\_support/get-help.html](https://www.uwo.ca/health/student_support/survivor_support/get-help.html).

To connect with a case manager or set up an appointment, please contact [support@uwo.ca](mailto:support@uwo.ca).

[Academic Counselling \(Science and Basic Medical Sciences\)](#)

[Appeal Procedures](#)

[Registrarial Services](#)

[Student Development Services](#)

[Student Health Services](#)