

**Physiology and Pharmacology**  
**Human Pharmacology and Therapeutic Principles PHARM 3620**

Course outline for Fall/Winter 2021-2022



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	Reading Week	Classes End	Study day(s)	Exam Period
September 8	November 1–7	December 8	December 9	December 10–21

\* November 30, 2021: Last day to drop a full course without penalty

Classes Resume	Reading Week	Classes End	Study day(s)	Exam Period
January 3	February 19–27	April 1	April 2/3	April 4–30

3. **Contact Information**



Course Coordinator	Contact Information
Dr. Nica Borradaile	Use OWL message
Dr. Lina Dagnino	Use OWL message

Instructors and Teaching Assistants	Contact Information
Dr. Rommel Tirona	Use OWL message
Dr. Brad Urquhart	Use OWL message
Dr. Lina Dagnino	Use OWL message
Dr. Angela Beye	Use OWL message
Dr. Marco Prado	Use OWL message
Dr. Rob Gros	Use OWL message
Dr. Cory Yamashita	Use OWL message
Dr. Nica Borradaile	Use OWL message

## 4. Course Description and Design

### Delivery Mode: In-person

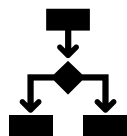
This is a 1.0 credit, systems-based course in pharmacology that deals with drugs used to treat diseases that affect various systems and organs of the body (e.g. cardiovascular disease, neurological diseases, endocrine disorders etc.). It also presents some important fundamental principles of pharmacology. There is an emphasis on how drugs target the system or organ, mechanisms of drug action, and adverse effects of drugs on the system. Topics in Pharmacology 3620 are closely aligned with topics in Physiology 3120 (Human Physiology). Physiology 3120 is highly recommended as a co-requisite, so that you will learn how an organ system works in physiology and then, in Pharmacology 3620, learn about diseases that affect that system and how drugs work to target and treat those diseases.

#### Requisites:

Prerequisite(s): Biochemistry 2280A, Biology 2382B

Co-requisite(s): Physiology 3120 is highly recommended

Anti-requisite(s): The former Pharmacology 3550A/B, 3560A/B



### Timetabled Sessions

Component	Date(s)	Time
Lecture	T/Th	12:30-1:30 AHB 1R40

- Recordings of lecture material will be provided

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

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:



- Identify the major groups of drugs used to treat a range of diseases, and be able to explain their mechanism(s) of action at their respective target sites.
- Identify different classes of drugs within those used for a specific disease process, and identify both beneficial and possibly adverse effects.
- Explain the processes by which drugs are absorbed and distributed within the body, and the ways in which the body alters the fate of administered drugs

## 6. Course Content and Schedule



Fall Term			
Week	Dates	Topic	Instructor
1	Sept 8–12	Introduction to Pharmacokinetics	RT
2	Sept 13–19	Drug Absorption and Distribution Drug Elimination and Dosage Regimens	RT RT
3	Sept 20–26	Drug Metabolism Drug Transporters	RT RT
4	Sept 27–Oct 3	Pharmacodynamics 1 Pharmacodynamics 2	BU BU
5	Oct 4–10	Pharmacogenetics 1 Pharmacogenetics 2	BU BU
6	Oct 11–17	Routes of Drug Administration Introduction to Neoplastic Disease	BU LD
7	Oct 18–24	Cancer Therapy 1 Cancer Therapy 2	LD LD
8	Oct 25–Oct 31	Cancer Therapy 3 <b>QUIZ 1 (Oct 28)</b>	LD OWL
9	Nov 1–7	Reading Week	N/A
10	Nov 8–14	Introduction to Neuropharmacology Analgesia and Anesthesia	AB AB
11	Nov 15–21	Drugs of Abuse 1 Drugs of Abuse 2	BU BU
12	Nov 22–28	Drugs used to treat Anxiety Drugs used to treat Depression	MP MP
13	Nov 29–Dec 5	Drugs and the Cholinergic System Drugs targeting the Neuromuscular Junction	MP MP
14	Dec 6–8	Drugs used to treat Dementia	MP

Winter Term			
Week	Dates	Topic	Instructor
1	Jan 3–7	Pharmacotherapy of Movement Disorders Drugs and the Adrenergic System 1	MP AB
2	Jan 10–14	Drugs and the Adrenergic System 2 Drugs and the Cardiovascular System 1	AB RG
3	Jan 17–21	Drugs and the Cardiovascular System 2 Drugs and the Cardiovascular System 3	RG RG

4	Jan 24–28	Drugs and the Cardiovascular System 4 Drugs and the Cardiovascular System 5	RG RG
5	Jan 31–Feb 4	Drugs and the Cardiovascular System 6 Drugs and Respiratory Diseases 1	RG CY
6	Feb 7–11	Drugs and Respiratory Diseases 2 Antimicrobial Drugs	CY LD
7	Feb 14–18	Antiviral Drugs <b>QUIZ 2 (Feb 17)</b>	LD OWL
8	Feb 21–25	Reading Week	N/A
9	Feb 28–Mar 4	Introduction to Endocrine Pharmacology Drugs used in Thyroid Disease	NB NB
10	Mar 7–11	Drugs used in Type 1 Diabetes Mellitus Drugs used in Type 2 Diabetes Mellitus	NB NB
11	Mar 14–18	Drugs used in Inflammatory Diseases and Osteoporosis Drugs used to Control Fertility	NB NB
12	Mar 21–25	Drugs used to treat Obesity and Hyperlipidemia Drugs used to treat Hyperlipidemia	NB NB
13	Mar 28–Apr 1	Final Exam Review	TAs

## 7. 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	Due Date
Quiz 1 (40 min)	multiple choice	10%	November 9
Quiz 2 (40 min)	multiple choice	10%	February 17
Midyear Exam (2 h)	multiple choice and short answer	35%	December exam period (TBA)
Final Exam (3 h)	multiple choice and short answer	45%	April exam period (TBA)

- 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

Quizzes will consist of multiple-choice questions with 4 options (A, B, C, or D). The Midyear (maximum of 50 questions) and Final (maximum of 75 questions) exams will consist of multiple-choice questions with 4 options (A, B, C, or D) and a limited number of short answer questions. The Midyear Exam will be cumulative from the beginning of the year. The Final Exam will be cumulative over the entire course, but with major emphasis on material taught after the Midyear Exam. There will be no make-up Quizzes. The weight of missed quizzes and of a missed Midyear Exam (and the one scheduled makeup) will be transferred to the Final Exam. If a student misses one or both

Quizzes plus the Midyear Exam (and the makeup for the Midyear Exam), they will be required to write an alternate Final exam format, which could include an integrative essay covering content from the entire course and/or an oral exam. Alternate Final Exam formats will be 3 hours in duration. Quizzes will be administered through OWL Tests & Quizzes, and Examinations will be conducted in person.

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:**

- The weight of a missed quiz or test will be transferred to the Final Exam
- The Final Exam, must be passed to pass the course.
- If a make-up assessment is missed with documentation, 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
- Students should email their instructor(s) and teaching assistant(s) using email or OWL, as indicated
- Emails will be monitored daily; students will receive a response in 24 – 48 hours
- This course will use OWL Forums for discussions
- Students should post all course-related queries on the OWL Forums so that everyone can access the questions and responses

**10. Office Hours:**



- Office hours will be held in-person or remotely, depending on instructor preference
- Office hours will be booked by email
- Office hours will be individual or group, depending on instructor preference

**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:

- 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

## 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. Science and BMSc students can contact academic counselling through the Help Portal: <https://www.uwo.ca/sci/counselling/>

## **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](#)