

PHARMACOLOGY AND TOXICOLOGY 2060B Online

Introduction to Pharmacology & Therapeutics

Course Syllabus Winter 2016-2017

1. Course Information

Welcome to Pharmacology 2060B. This course provides an introduction to pharmacology and therapeutics. In the first half of the course you will learn the basic principles of pharmacology including pharmacokinetics, pharmacodynamics, adverse drug reactions, and drug interactions. In this section, you will learn how drugs enter tissues, how they act, and how the action of the drug is terminated. This is important to understand before we discuss any specific drugs of interest.

The focus of the course will change in the second half and you will learn about the therapeutic actions of specific drugs used to treat a variety of conditions. The classes of drugs covered include those that prevent heart disease, drugs to treat CNS disorders like anxiety and Alzheimer's disease, drugs to treat diabetes, and chemotherapy of infectious diseases and cancer.

Learning Outcomes

By the end of this course, successful students will be able to:

1. Describe the principles that determine how pharmacological agents get into and are handled by the body.
2. Describe the principles that determine how pharmacological agents act in the body to produce a pharmacological effect.
3. Identify the main therapeutic actions and side effects of pharmacological agents commonly used in clinical practice.

Western Calendar Description: A course for students in the BSc in Nursing and other Health Sciences programs as well as students in BMSc and BSc programs, to provide a basic understanding of the fundamentals of drug action and the mechanisms of action and therapeutic use of the important classes of drugs.

Online: Distance Studies Course. 0.5 course

Anti-requisite(s): Pharmacology 3620, or the former Pharmacology 3550A/B.

Pre- or Co-requisite(s): One of Biology 1001A or 1201A and one of Biology 1002B or 1202B, or the former Biology 1222 or 1223; or registration in the BSc in Nursing.

Senate regulation regarding the student's responsibility concerning requisites: "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." taken from: Academic Handbook (2011 02)

2. Instructor Information

Course Manager: Dr. Andrea Di Sebastiano

Email: adiseba@uwo.ca

Office: University Hospital, Room C7-108

Telephone: 519-685-8500

A bit about your course manager: I am Postdoctoral Research Fellow in the Department of Clinical Neurological Sciences, working on potential new therapies for devastating neurological conditions such as Parkinson's Disease, and the highly aggressive brain tumor, glioblastoma. In addition to my research I teach undergraduate level courses in the Departments of Anatomy and Cell Biology and Physiology and Pharmacology.

If you have any questions about the course, scheduling, quiz problems, or require special accommodations, please do not hesitate to email me. If you have a specific question on the course material, please post it to the discussion forum (see below).

When emailing, include "Pharmacology 2060" in the subject line.

I am always happy to meet with my students. Please schedule an appointment with me via email and we can arrange a time to meet.

Teaching Assistants

We have 3 teaching assistants in this course. Much of your contact with our TA's will occur on the discussion forums. Please pose any questions you have about course material on the forum, and they will address them as soon as possible. The reason we encourage using the forum is that if you have a question, it is likely that someone else in the 650+ students in this course also has that question! This also helps us know which concepts students find particularly difficult so we can summarize these concepts in review podcasts during the semester. Please do not email questions on the material from the modules directly to the TA's or Dr. Di Sebastiano. You can see the guidelines for the discussion forum under *Section 4: Discussion forum* in this syllabus.

3. Course Schedule

Each module will be completed online on the OWL website under *Course Materials*, according to the schedule below. Modules will be posted between Friday afternoon and Monday morning for that week. I encourage you to keep up with the modules for the best learning experience. *It is VERY easy to get behind in online courses since you have no regularly scheduled lectures, and even much more difficult to then get caught up. My best advice is to schedule a day in your calendar each week to work on the course and make it part of your timetable.*

Week 1: January 9th – January 13th	
Module 1	Chemistry of Pharmacology
Module 2	Pharmacokinetics-absorption
Week 2: January 16th – January 20th	
Module 3	Pharmacokinetics-distribution
Module 4	Pharmacokinetics-metabolism
Week 3: January 23rd – January 27th	
Module 5	Pharmacokinetics-excretion
Module 6	Clinical Pharmacokinetics
Quiz #1 – Released on Friday, January 27th @ 4:00pm and closed Monday, January 30th @10:00pm. This quiz will cover modules 1-6.	
Week 4: January 30th – February 3rd	
Module 7	Pharmacodynamics-dose response relationships
Module 8	Pharmacodynamics-drug receptor interactions
Week 5: February 6th – February 10th	
Module 9	Pharmacodynamics-therapeutic index
Module 10	Adverse Drug Reactions and Medication Errors
Module 11	Drug Interactions
Quiz #2 – Released on Friday, February 10th at 4 PM and close Monday, February 13th @ 10:00pm. This quiz will cover the modules 7-11.	
Week 6: February 13th – February 17th	
Module 12	Drugs to Lower Cholesterol and Triglycerides
Reading Week: February 20th – February 24th	
Week 7: February 27th – March 3rd	
Module 13	Pharmacotherapy of Hypertension

MIDTERM EXAM Saturday, March 4th 2017, 2pm (covers modules 1-11)	
Week 8: March 6th – March 10th	
Module 14	CNS Pharmacology: Part I
Quiz #3 – Released on Friday, March 10th @ 4:00pm and closed on Monday, March 13th @ 10:00pm. It will cover Modules 12 and 13.	
Week 9: March 13th – March 17th	
Module 14	CNS Pharmacology: Part II
Week 10: March 20th – March 24th	
Module 15	Drugs to Treat Diabetes
Quiz # 4 – Released on Friday, March 24th @ 4:00pm and closed on Monday, March 27th @ 10:00pm. It will cover all of module 14.	
Week 11: March 27th – March 31st	
Module 16	Antibiotics
Week 12: April 3rd – April 7th	
Module 17	Cancer Chemotherapy
Quiz # 5 – Released on Wednesday April 5 @ 4:00pm and closed on Friday April 7th @ 10:00pm. It will cover Modules 15, 16 and 17.	

4. Course Materials

A) **OWL website (powered by Sakai):** All course information will be available on the course website: owl.uwo.ca. Please check this website often for course updates. The modules are found under the **Course Material tab** on the left hand side. You will find general instructions on how to get started under that tab as well.

For assistance accessing Sakai: Contact the ITS Support Centre at 519-661-3800, visit the ITS Help Desk (SSB 4100) or <http://www.uwo.ca/its/helpdesk/>

Technical Information: The modules contained within this course use several different web-based technologies (e.g. Flash and Shockwave). *Please ensure that your browser is up-to-date with the latest Flash and Shockwave plug-ins.* These modules have been tested on both Mac and Windows platforms using Internet Explorer, Firefox, and Safari.

To ensure that everything works as intended, please use one of those browsers. You should also ensure that your audio is on as many modules components contain sound.

Note: Given the limitations of mobile devices (i.e. iPhone, iPad etc.) and the software used to view these modules, it is recommended that you use a laptop or desktop system to view these modules and complete the learning activities contained within.

Discussion forums: As this course is completely online, the discussion forum and announcement functions on this site are the only methods we have to communicate with students. I expect you to check this site frequently and read ALL messages that that I post. *Note: If you click on the actual forum message, it will then appear as "Read". This will help you notice when a new message is posted.* Please reserve the discussion forums for questions pertaining directly to the course material and be careful to post your question in the appropriate place. It is not helpful for anyone if you post your questions about drug metabolism in the pharmacodynamics section.

IMPORTANT NOTES about the discussion forum:

- i) **You are not allowed to post ANYTHING on the discussion board while the quizzes are open. We will not answer any questions during this time. You may not post ANYTHING at all on the discussion board during quizzes as it may provide an unfair advantage to students who have not yet written the quiz. Failure to follow this rule will result in a penalty on your quiz score.**
- ii) Please be respectful to us and your colleagues in your forum posts, using appropriate and professional language.
- iii) Carefully constructed questions are easier to answer, so do your best to give as much detail as possible about your question, such as where it is found in the module or if it is a practice question.

B) Optional Textbook: *Pharmacology for Nursing Care, 8th Edition* by Richard A. Lehne. Most students find that they don't need the textbook. If you have trouble with the material it may be a good idea to purchase it. Otherwise, the supplied material in the modules should be sufficient to do well in the course.

4. Methods of Evaluation

Important: Please note that due to the structure of Pharmacology 2060B and scheduling of Distance Studies exams, this course has been **granted an exemption** by the Dean's office from the "15% rule", that states students must receive 15% of their final grade at least one week prior to the drop deadline (February 28, 2016). Students can expect to have >15% of their final mark one week following the midterm examination (March 11, 2017).

Quizzes (10%): There will be five online marked quizzes (2% each) scheduled throughout the semester as described above in *Section 3: Course Schedule*. These will be accessed through the OWL website under the *Tests and Quizzes* Tab. You will have one attempt at this quiz, which will have a time limit, as indicated at the beginning of the quiz. Therefore you must answer and submit answers before the time ends. Questions not answered by the time limit will receive a mark of zero when you submit your quiz. Quizzes will not be marked or feedback given until a day or two after the quiz period has ended. These quizzes are to help you identify where your weaknesses are in the material. While these quizzes are online, cheating will not be tolerated, as outlined in Section 6 (below).

Exams (90%): There will be two in class (i.e. not online) multiple choice examinations: one midterm (40%) and one final exam (50%). The midterm exam will consist of 50 multiple choice questions and cover material from modules 1 - 11. You will have 1.5 hours to complete the midterm. The final exam will consist of 100 multiple choice questions. The final exam is cumulative, although there will be a greater emphasis on material from modules 12-17.

Illness or Compassionate Accommodations for exams and quizzes: Students are expected to write quizzes during the scheduled time. Quizzes are generally scheduled for at least 3 days and can be completed at any time during that period. In the case of illness or other serious circumstances during the entire quiz period, or for the midterm or final exam, you will be required to provide valid medical or supporting documentation as follows:

Senate policy states that “Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counseling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department.” The UWO policy on accommodation for Medical Illness can be found at: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

A completed Student Medical Certificate (SMC) is required for medical documentation. Please present this to the physician and then the appropriate Dean’s office. This certificate is available at: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

Please notify Dr. Di Sebastiano immediately to let me know you will not complete the exam/ quiz at the scheduled time. You will be responsible to make alternative arrangements to complete the missing material once the accommodation has been approved by the Dean’s office.

Accommodations for Religious Holidays: If you will be absent from an exam for a religious holiday, you are responsible for contacting Dr. Di Sebastiano at least 2 weeks in advance of your absence. This policy can be found at: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

Additional Statements

Senate Statement on Scholastic Offenses: “Scholastic offenses are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offense, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.”

The Department of Physiology and Pharmacology takes scholastic conduct very seriously. This class is composed of two multiple choice exams. It is the policy of our Department that “Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.” This is done by analyzing all answer sheets which identifies anomalies of statistical significance in the selection of right and wrong answers by pairs of students. The course instructor is required to report all statistically significant results which suggest that cheating may have occurred. All such incidents will be subject to further investigation. All proven cases of cheating will be subject to severe academic penalties. To avoid offering similar answers unknowingly, students are strongly encouraged to not sit near friends or peers with whom they studied during examinations.

Support Services

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

The following websites are available for any additional assistance.

Distance Studies: http://registrar.uwo.ca/applying/distance_studies/

Office of the Registrar: <http://registrar.uwo.ca/index.html>

Academic Calendar 2017: <http://www.westerncalendar.uwo.ca/2017/>

Western Libraries: <http://www.lib.uwo.ca>

Student Development Centre: <http://www.sdc.uwo.ca/>

Services for Students with Disabilities: <http://www.sdc.uwo.ca/ssd/>

Student Health Services: <http://www.shs.uwo.ca/>

Office of the Ombudsperson: <http://www.uwo.ca/ombuds/index.html>

Equity and Human Rights Services: <http://www.uwo.ca/equity/>