

Course ID:	Course Title:	Winter 2023
BCH 357	Medical Pharmacology	Prerequisite: Biochemistry
		Credits: 3

Class Information		Instructor Information		Important Dates	
Days:	W/F	Instructor:	Liza Abraham PhD	First day of classes:	Mon., January 9
Time:	2:30-3:45	Email:	lbrahim@ambrose.edu	Last day to add/drop, or change to audit:	Sun, Jan 22
Room:	L2100	Phone:	403-410-2000 ext.6921	Last day to request revised exam:	Mon, March 13
Lab/ Tutorial:		Office:	A2160	Last day to withdraw from course:	Fri, March 31
		Office Hours:		Last day to apply for coursework extension:	Mon, Apr 3
Final Exam:	NA			Last day of classes:	F, April 14

Course Description

This course looks at the core concepts in Pharmacology. These include Principles of Drug Action-pharmacokinetics and pharmacodynamics, topics in neuropharmacology, Cancer drugs, NSAIDs and antibacterials.

Expected Learning Outcomes

Upon the successful completion of this course student should be able to explain:

- The foundational concepts of pharmacological sciences- pharmacodynamics; pharmacokinetics; drug metabolism; and drug-drug/drug-food interactions. The application of pharmacokinetics in prescribing for elderly patients and impaired liver and renal function
- The mechanism of action of neurotransmitters, the effects of cocaine on brain metabolism, alcoholism and treatment, pharmacokinetics of benzodiazepines & barbiturates, the classes and mechanism of action of antidepressants, the mechanism of action of specified drug classes used to treat the major types of brain and mind disorders, the structure and activity relationship of opioids, and benzodiazepines, new research on cannabinoids –THC and CBD
- The mechanism of action of antibacterial, and structure and activity relationship, antibiotic resistance
- The mechanism action of NSAIDs, acetaminophen Non-selective COX 1 & 2 drugs, COX-2 selective drugs, glucocorticoids and anti-cytokine Agents
- The cancer chemotherapy of alkylating agents, antimetabolites, natural products, topoisomerase inhibitors, targeted cancer therapies, tyrosine kinase inhibitors, immunotherapy
- The basic principles of pharmacogenomics - Individual pharmacokinetic and pharmacogenetic variability in the response to drugs
- The scientific information related to the topics effectively

Textbooks (Suggested)

Rang, H.P., Dale, Ritter, Flower & Henderson (2015): Pharmacology, 8th Edition. Churchill Livingstone. ISBN 13978-0-7020-5362-7.

Golan, D.E., et al., (2011) Principles of Pharmacology 3rd edition. LWW. ISBN 9781451118056).

Lippincott's Illustrated Reviews: Pharmacology, 6th Edition Author: Karen Whalen ISBN: 9781469887562 Cover Type: Paperback Pages: 680 Pub

Course Schedule: (Tentative)

Week of	Lecture	Important Dates	Readings/In-Class Activities
Jan 9	Pharmacodynamics		
Jan 16	Pharmacodynamics		Examples of Receptors and Disease: Grave's Disease & Myasthenia gravis
Jan 23	Pharmacokinetics		
Jan 30	Pharmacokinetics	Quiz 1 Jan 25	The Practical Importance of Half-Life in Psychopharmacology https://www.psychiatrist.com/read-pdf/41940/
Feb 6	Neuropharmacology		
Feb 13	Neuropharmacology	Assignment 1 Feb.15	Cocaine DrugFacts
Feb 20	Reading Break		
Feb 27	Neuropharmacology	Quiz 2 Mar 1	
Mar 6	Antibacterials		The Antibiotic Resistance Crisis;
Mar 13	Antibacterials		
Mar 20	Anti-Inflammatory Drugs		The aspirin story
Mar 27	Cancer Chemotherapy Wednesday March 29 Ambrose Research Conference	Assignment 2 March 29	
Ap 3	Cancer Chemotherapy		Precision and personalized medicine
Ap 10	Last Day of Class F, April 14	Quiz 3 April 12	

Grade Summary:

The available letters for course grades are as follows:

<u>Letter Grade</u>	<u>Description</u>
A+	
A	Excellent
A-	
B+	
B	Good
B-	
C+	
C	Satisfactory
C-	
D+	
D	Minimal Pass
F	Failure

Grading Scale:

A+	A	A-	B+	B	B-
95% - 100%	87% - 94.99%	82% - 86.99%	77% - 81.99%	72% - 76.99%	66% - 71.99%

C+	C	C-	D+	D	F
62% - 65.99%	58% - 61.99%	54% - 57.99%	50% - 53.99%	45% - 49.99%	< 44.99%

In determining the overall grade in the course the following weights will be used:

Quizzes 45 % (3 of them)

Assignment 1 20%

Assignment 2 20%

In-Class Activities 15%

Most class sessions finish with student-led discussions based on recommended literature readings. These discussions cover some crucial topics in pharmacology, which are either not addressed or dealt with only briefly in lectures. The students will analyze each paper, and each student will be expected to give an informal oral presentation for about 5 minutes, followed by class discussions.

Because of the nature of the Alpha 4.00 system, there can be no uniform College-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Academic Accommodation:

Ambrose University is committed to ensuring that each student is afforded an academic environment that has been developed on the principles of equal and equitable access, respect for individual differences, and academic integrity. Accessibility and Support Services offers services to students with documented disabilities including learning disabilities, chronic health issues, hearing and visual impairment, disabilities and temporary impairment due to accident, illness or injury. It is the student's responsibility to contact the Accessibility and Support Services office to request

academic accommodation. The nature and type of academic accommodations vary from student to student and are dependent upon the student's disability and the academic requirements.

If you are a student with a documented disability who may require academic accommodation and have not registered with Student Accessibility and Support Services, please contact their office at accessibility@ambrose.edu or (403) 410-2000 ext. 2956. Students who have not registered with Student Accessibility Services are not eligible for formal academic accommodation. For additional information on support services and accommodations for students with disabilities, visit: https://ambrose.edu/student_life/accessibility-and-support-services

Attendance:

Class participation is extremely important to your learning in this course. If you miss any class please make sure to complete the notes from your peers.

In respect to the professor and to your fellow students, we ask that you:

- a) Turn your phone off during class and that you don't use it for texting during lecture or lab;
- b) Not have conversations with the people beside you during lecture – it is very distracting to the people around you;
- c) Use your laptops for lecture material and assignments only – that you are not using the internet or Facebook during class time;
- d) Arrive to lecture, lab and tutorial on time; you will not be permitted in the lab if you miss the pre-lab talk;
- e) Don't listen to music in class or lab. These will help to maximize the learning experience for you and your fellow students (and will keep your professor in a good mood).

Ambrose University Academic Policies:

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

Registration

During the Registration Revision Period students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the Withdrawal Deadline; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final

examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student to use a laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the

Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record. Note: Students are strongly advised to retain this syllabus for their records.