

Pharmacology 200 (PMCOL 200) Winter 2021

Instructor and Course Coordinator: Dr. Anna Taylor Office: 9-47 Medical Sciences Building (MSB)

Phone: (780) 492-3870 Email: <u>ataylor1@ualberta.ca</u>

Instructor and Course Coordinator: Dr. Myron Zwozdesky Office: 9-70 Medical Sciences Building (MSB)

Email: <u>myronz@ualberta.ca</u>

Instructor: Dr. Harley Kurata

Office: 6-126 Li Ka Shing Centre

Phone: (780) 492-9177 Email: kurata@ualberta.ca

To contact instructors, email is the preferred method. Office hours vary throughout the term due to other teaching commitments. Therefore, if you need to see an instructor in person, please email for an appointment beforehand.

Lecture Room & Time

CCIS 1-440, 2:00-2:50 PM, MWF

Course Description

This course provides a basic overview of commonly-used drugs, including a brief overview of the basics of pharmacodynamics and pharmacokinetic theory. It will provide insight into the mechanisms by which drugs cause both positive and negative effects and explore aspects of drug metabolism and elimination.

Course Prerequisites

BIOL107 and CHEM101 or equivalent. Students who do not have the required prerequisites at the time of taking this course should not expect supplementary professorial tutoring.

Textbook

Reference material will come from Pharmacology textbooks that are freely available via the Access Medicine portal on the U of A library website. Specific textbooks and chapters will be identified on a lecture-by-lecture basis.

Schedule *Tentative date; Check Bear Tracks to confirm

Date	-
207-JanDrug targets – pharmacodynamics IKurata310-JanHow drugs bind to targets – pharmacodynamics IIKurata412-JanHow drugs are eliminated – pharmacokineticsKurata514-JanHow do we know if a drug works?Kurata617-JanOver the counter (OTC) meds – analgesicsZwozdesk719-JanOTC meds – cough and cold remediesZwozdesk821-JanOTC meds – allergy and insomniaZwozdesk924-JanOTC meds – drugs used to treat digestive problemsZwozdesk1026-JanDrugs used to manage high blood pressure IKurata1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids IITaylor1918-FebOpioids IITaylor21-FebReading Week-22-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarAntibiotic medicationsTaylor22 <td< td=""><td></td></td<>	
3 10-Jan	
4 12-Jan How drugs are eliminated – pharmacokinetics Kurata 5 14-Jan How do we know if a drug works? Kurata 6 17-Jan Over the counter (OTC) meds – analgesics Zwozdesk 7 19-Jan OTC meds – cough and cold remedies Zwozdesk 8 21-Jan OTC meds – drugs used to dead insomnia Zwozdesk 9 24-Jan OTC meds – drugs used to treat digestive problems Zwozdesk 10 26-Jan Drugs used to manage high blood pressure I Kurata 11 28-Jan Drugs used to manage high blood pressure II Kurata 12 31-Jan Atherosclerosis – statins and fibrates Kurata 02-Feb Midterm exam (25%) - 13 04-Feb Drugs used to treat psychosis Taylor 14 07-Feb Pharmacology of ethanol Zwozdesk 15 09-Feb Pharmacological interventions in depression Taylor 16 11-Feb Drugs used in the management of seizure disorders Taylor 17 14-Feb Opioids I Taylor 19 18-Feb Opioids II	
514-JanHow do we know if a drug works?Kurata617-JanOver the counter (OTC) meds – analgesicsZwozdesk719-JanOTC meds – cough and cold remediesZwozdesk821-JanOTC meds – allergy and insomniaZwozdesk924-JanOTC meds – drugs used to treat digestive problemsZwozdesk1026-JanDrugs used to manage high blood pressure IKurata1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	
617-JanOver the counter (OTC) meds – analgesicsZwozdesk719-JanOTC meds – cough and cold remediesZwozdesk821-JanOTC meds – allergy and insomniaZwozdesk924-JanOTC meds – drugs used to treat digestive problemsZwozdesk1026-JanDrugs used to manage high blood pressure IKurata1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	
719-JanOTC meds – cough and cold remediesZwozdesk821-JanOTC meds – allergy and insomniaZwozdesk924-JanOTC meds – drugs used to treat digestive problemsZwozdesk1026-JanDrugs used to manage high blood pressure IKurata1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2102-MarAntibiotic medicationsTaylorFatima MraicheFatima Mraiche	v
821-JanOTC meds – allergy and insomniaZwozdesk924-JanOTC meds – drugs used to treat digestive problemsZwozdesk1026-JanDrugs used to manage high blood pressure IKurata1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylor	
9 24-Jan OTC meds – drugs used to treat digestive problems 10 26-Jan Drugs used to manage high blood pressure I Kurata 11 28-Jan Drugs used to manage high blood pressure II Kurata 12 31-Jan Atherosclerosis – statins and fibrates Kurata 13 04-Feb Midterm exam (25%) 14 07-Feb Drugs used to treat psychosis Taylor 14 07-Feb Pharmacology of ethanol Zwozdesk 15 09-Feb Pharmacological interventions in depression Taylor 16 11-Feb Drugs used in the management of seizure disorders Taylor 17 14-Feb Cannabis Taylor 18 16-Feb Opioids I Taylor 19 18-Feb Opioids I Taylor 21-Feb Family Day - 23-Feb Reading Week - 25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor	
1026-JanDrugs used to manage high blood pressure IKurata1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	
1128-JanDrugs used to manage high blood pressure IIKurata1231-JanAtherosclerosis – statins and fibratesKurata02-FebMidterm exam (25%)-1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-25-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	<i>J</i>
Atherosclerosis – statins and fibrates Curata	
O2-Feb Midterm exam (25%) -	
1304-FebDrugs used to treat psychosisTaylor1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-25-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	
1407-FebPharmacology of ethanolZwozdesk1509-FebPharmacological interventions in depressionTaylor1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-25-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	
Taylor 16 11-Feb Drugs used in the management of seizure disorders Taylor	y
1611-FebDrugs used in the management of seizure disordersTaylor1714-FebCannabisTaylor1816-FebOpioids ITaylor1918-FebOpioids IITaylor21-FebFamily Day-23-FebReading Week-25-FebReading Week-2028-FebHallucinogens and other recreational drugsTaylor2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	J
17 14-Feb Cannabis Taylor 18 16-Feb Opioids I Taylor 19 18-Feb Opioids II Taylor 21-Feb Family Day - 23-Feb Reading Week - 25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
18 16-Feb Opioids I Taylor 19 18-Feb Opioids II Taylor 21-Feb Family Day - 23-Feb Reading Week - 25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
19 18-Feb Opioids II Taylor 21-Feb Family Day - 23-Feb Reading Week - 25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
21-Feb Family Day - 23-Feb Reading Week - 25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
23-Feb Reading Week - 25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
25-Feb Reading Week - 20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
20 28-Feb Hallucinogens and other recreational drugs Taylor 21 02-Mar Migraine Taylor 22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
2102-MarMigraineTaylor2204-MarAntibiotic medicationsTaylorFatima Mraiche	
22 04-Mar Antibiotic medications Taylor Fatima Mraiche	
Fatima Mraiche	
I Moser Kare ex	
What can I do with a PMCOL background? Featuring Farah Hassan	
23 O7-Mar PMCOL program alumni guest speakers Potts, Natas	
Govindasamy, B	
Chan, Stephanie	
09-Mar Midterm exam (30%) -	
24 11-Mar Drug development (Clinical trials) Tsuyuki	
25 14-Mar Antiviral medications Taylor	
26 16-Mar Chemotherapy Taylor	
27 18-Mar Inflammation – asthma to arthritic – glucocorticoids Kurata	
28 21-Mar Immunopharmacology Kurata	
29 23-Mar Immunopharmacology Kurata	
30 25-Mar Hyperthyroidism Kurata	
31 28-Mar Drugs used to treat osteoporosis Kurata	
32 30-Mar Drug interactions Kurata	
33 01-Apr Pharmacogenomics Bhavsar	
34 04-Apr Drug therapy in geriatrics Sadowski	
35 06-Apr Gene editing/CRISPR/Genetic medicine Yokota	
36 08-Apr Drug discovery (48Hour Discovery) Derda	
*25-Apr Final exam (45%), 9 am	

Grade Evaluation

Course grades are based on the final cumulative percentage score assigned to students. The final percentage score is determined by adding the weighted assessment components of the course as described in the course syllabus. Grade boundaries will be determined using the grade-mapping chart shown below:

Course Mark	Letter Grade	Course Mark	Letter Grade
95 - 100	A+	65 - 69	C+
90 - 94	A	60 - 64	С
85 - 89	A-	55 - 59	C-
80 - 84	B+	52 - 54	D+
75 - 79	В	50 - 51	D
70 - 74	B-	0 - 49	F

Grades may be adjusted no more than one step in either direction to account for exceptional grade distributions.

Exams	Weighting	Date
Midterm I	25%	02-Feb
Midterm II	30%	09-Mar
Final Exam	45%	*25-Apr

^{*}Tentative date; Check Bear Tracks to confirm

Format of Exams

Exams will be multiple choice questions only. They will be non-cumulative. Example questions will be posted on the eClass website.

Copyright

Please be aware that all course materials (notes, practice questions etc.) posted on the eClass site are the property of the instructors. They may not be used in any capacity other than for the personal use of students enrolled in the course. They are not to be posted or shared in any form without the express written consent of the instructor. To do so without consent is copyright infringement which will then be dealt with appropriately by the University of Alberta.

Missed Exams

A student who cannot write a term examination or complete a term assignment because of an incapacitating illness, severe domestic affliction or other compelling reasons can <u>apply</u> for a deferred midterm. Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted. If it is not granted, the student will receive a mark of zero on the missed examination. As a last resort, increasing the weight of subsequent exams in lieu of missing an examination may be considered. Misrepresentation of Facts to gain a deferral is a serious breach of the Code of Student Behaviour. The format of the deferred midterm examination is at the discretion of the coordinator and may differ from that of the regularly

scheduled examination. For example, rather than multiple choice questions, it may be in an oral format instead.

- 1. To apply for an excused absence where the cause is incapacitating mental and/or physical illness and most other cases including severe domestic affliction, a student must inform the instructor(s) within two working days following the scheduled date of the term work or term exam missed, or as soon as the student is able, having regard to the circumstances underlying the absence.
- 2. For an excused absence where the cause is religious belief, a student must contact the instructor(s) within two weeks of the start of Fall or Winter classes; and within three days of the start of Spring or Summer classes.
- 3. All other accommodation requests covered by the Duty to Accommodate Procedure should be discussed with the instructor(s) as soon as the student is able, having regard to the underlying circumstance.
- 4. In all cases, instructors may request adequate documentation to substantiate the reason for the absence at their discretion such as a form from the student's Faculty or a statutory declaration. Although a medical note cannot be required, if a student chooses to provide a medical note, the University of Alberta Medical Statement Form may be downloaded from the Online Services section of www.registrarsoffice.ualberta.ca
- 5. The dates for deferred midterms are: **February 10**th for midterm I and **March 16**th for midterm II.

Deferred Final Examination

A student who cannot write the final examination because of an incapacitating illness or is suffering from severe domestic affliction or other compelling reasons can <u>apply</u> for a deferred final examination. Such an application must be made to the student's Faculty office within 48 hours of the missed examination. Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. Misrepresentation of Facts to gain a deferred examination is a serious breach of the Code of Student Behaviour. The date of the deferred examination will be **May 1st**. The format of the deferred final examination is at the discretion of the coordinator and may differ from that of the regularly scheduled final examination. For example, it may be in a written or oral format or a mixture of formats.

Student Responsibilities

Academic Integrity

'The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.ualberta.ca/secretariat/appeals.htm) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.'

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offences. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science the sanction for **cheating** on any examination will include a **disciplinary failing grade** (NO EXCEPTIONS) and senior students should expect a period of suspension or expulsion from the University of Alberta.

Exams

Your student photo I.D. is required at exams to verify your identity. Students will not be allowed to begin an examination after it has been in progress for 30 minutes. Students must remain in the exam room for at least 30 minutes from the time the exam commenced. Electronic equipment is not to be brought to exam (unless you are otherwise notified) and hats should not be worn.

Cell Phones

Cell phones are to be turned off during lectures, labs and seminars. Cell phones are not to be brought to exams.

Policy about course outlines can be found in section 23.4 of the University Calendar. Disclaimer: Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this syllabus.

Recording and/or Distribution of Course Materials

Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Health and Well-Being

Post-secondary education can be quite stressful, especially around exam time. The University of Alberta has services in place to help students navigate through the challenges of university education. The mental health of our students is apriority at the University of Alberta. A list of available services and support can be found here https://www.ualberta.ca/current-students/wellness/mental-health

Counseling and Clinical Services

Counseling and Clinical Services aims to help students with personal, social and academic issues. Common issues that can be addressed include depression, anxiety, self-harm, grief, disordered eating, relationship problems, perfectionism and adapting to University life. Initial consultations and all services (with the exception of group therapy) are free of charge. Please visit https://www.ualberta.ca/current-students/counselling for further information.

The Student Success Centre

The Student Success Centre https://www.studentsuccess.ualberta.ca provides services to help students academically and to support a successful academic experience. They help students develop skills that help to address exam preparation and exam writing anxiety, effective study habits, note taking and time management.

Student Accessibility Services

Student Accessibility Services (SAS (www.ssds.ualberta.ca)) serves students with documented disabilities and provides support to ensure that they achieve their full potential. They serve students who have mobility, vision, hearing and physical and mental health issues.

If a student has issues of any sort that will affect their success when writing exams, it is strongly suggested that they contact SAS and register with them. This will then initiate a process by which the course coordinator and SAS work together to make sure that the appropriate accommodation for examinations can occur. Registration with SAS should occur before any examinations take place.

SAS is in the best position to assess a student's needs and mutually agree upon the best course of action for the student in order to maximize their success when writing examinations.

The course coordinator will not be able to make ad-hoc decisions to defer exams or to change weighting of exams for students who have a disability but have not registered with SAS. Additionally, if a student writes and completes an exam, it will not retroactively be reassessed in light of new information about mental or physical health issues subsequently provided to the instructor.

From the Calendar: Should a student write an exam, hand in the paper for marking, and later report extenuating circumstances to support a request for cancellation of the paper and for another exam, such request will not be entertained. Any student who requests a cancellation of their paper and subsequently applies for or obtains an excused absence by making false statements will be liable under the Code of Student Behaviour.