

Pharmaceutical Chemistry

CHMD71H3

LECTURE OUTLINE

This document contains important course information and should be kept in a safe place where you can refer to it throughout the semester

Welcome to CHMD71H3: Pharmaceutical Chemistry

Prerequisites: Permission of the instructors. Normally recommended for individuals who have completed fifteen full credits, including at least two C-level Chemistry courses, and who are pursuing one of the Specialist Chemistry Programs.

Lectures: Lecture files and course-related documents will be posted on Quercus page frequently, so, please, keep an eye on the files folder and make sure to have your course-related notification emails on.

Reading Week-no classes Feb 13th to Feb 19th

Lecturers: Dr. Kagan Kerman & Dr. Shadi Dalili

Emails: Please use the Discussion Board on Quercus to submit your messages to us.

Office Hours on Zoom: Dr. Kerman: Tuesdays (1-2 pm) and Thursdays (1-2 pm) until February 26th and upon request on Quercus. I will also post the Zoom links for extra office hours before your final exam.

Office Hours on Bb Collaborate: Dr. Dalili: Fridays 11-12 noon (starting Mar 5th)

Course Website: Online version of CHMD71 maintains a Quercus web space which archives a variety of course-related information including class announcements, lecture slides and notes, if provided, contact information and links to some useful outside resources. In addition, class emails will regularly be sent via Quercus. *In order for you to receive these emails, you must have a valid "utoronto.ca" email account registered with ROSI.*

Method of Evaluation: The grading scheme for the course is shown in the table below:

Take-home Mid-term	20%	<u>February 24nd Wednesday from 9 am to 5 pm (EST)</u> Mid-term will contain reading articles and reviewing them with short answers, multiple choice questions and matching. The mid-term questions will be posted in the Files folder of the course page. The completed mid-term will be submitted as a Word or PDF file through the Quercus Assignments page.
Online Final Exam	35%	Final exam will short-answer and multiple-choice questions and matching. Entire course topics including the assignments and oral presentations will be included in the exam with more emphasis on the topics covered after the mid-term.
Quizzes	10%	Quizzes will contain short-answer and multiple-choice questions. Quizzes will be posted in the Files folder of the course page with specific deadlines for submission. The completed quizzes will be submitted as a Word or PDF file through the Quercus Assignments page.
Assignment	10%	Proposal and essay on an approved pharmaceutical agent, discussing the pharmacokinetics, dynamics and effects of the drug under physiological conditions. Each student will have to post their choice of drug molecule on the Discussion Board, so that there would be no overlaps. More details to be given in lectures
Final Term Assignment	10%	Proposal and essay on the approved pharmaceutical agent, discussing/analyzing synthetic routes to the drug in laboratory and industrial settings. More details to be given in lectures
Oral presentation on Zoom	15%	Each student will present an oral presentation about the synthesis and pharmacological effects of the drug of their choice from the prior assignments. The Zoom links will be arranged by the instructors and shared with all the students on the course page.

Recommended texts: *There is no individual textbook assigned for the course and students should rely on course notes, literature articles, and lectures for the material covered. The following is a list of suggested texts you may use for extra reading on covered topics:*

- 1) Golan, Tashjian, Armstrong, and Armstrong, **Principles of Pharmacology: The pathophysiologic basis of drug therapy**, Lippincott, Williams & Wilkins Publisher, (There is now a 4th edition of the textbook, but all the previous editions should be suitable for your studies.
- 2) Block, J.; Delgado, J. N., **Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical Chemistry**, 11th Edition. (9780781734813, Lippincot, Williams and Wilkins, 2004)
- 3) Thomas, G. **Medicinal Chemistry: An Introduction**, 2nd Edition. (978-0-470-02597-0, Wiley, 2008).

Turnitin.com: Students will be required to submit their papers to Turnitin.com for review of textual similarity and to access the site, please login to www.turnitin.com and in order to access the course, you will need a course ID and password, which will be provided through Quercus course site.

Statement about Turnitin.com: *"Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site"*

Online Grades: Individual grades will be posted on the Blackboard Gradebook as they become available. Please check these periodically to make sure that the posted grades match your own records. Any discrepancy should be reported immediately to the instructors.

The following is a tentative list of topics that will be covered throughout the semester. The topics may change so students should refer to lecture notes provided for content of the course.

Topics:

Lecture 1: Introduction to Pharmaceutical Chemistry (by Professor Kerman)

Lecture 2: Fundamentals of Drug-Receptor Interactions (by Professor Kerman)

Lecture 3: Introduction to Rational Drug Design (Quiz-1 = 3%) (by Professor Kerman)

Lecture 4: Combinatorial Synthesis (Quiz-2 = 2%) (by Professor Kerman)

Lecture 5: Drug Modelling and QSAR (Quiz-3 = 2%) (by Professor Kerman)

Feb 15: Reading Week ☺

Lecture 6: An example of developing a new drug molecule for Alzheimer's disease (Quiz=3%) (by Professor Kerman)

Lectures 7-12 will be given by Professor Dalili. The lecture topics and materials will be announced on Quercus page in due time.

In the week of April 5th, there will be a Q and A session about the oral presentations with Professor Dalili and Professor Kerman. More details about the time and date of this session will be given in the lectures.

Course Policies and General Information:

Course Announcements: Announcements, updates to readings, assignment topics, requirements, and evaluation, etc. will be posted to the course site through Quercus. Students are responsible for checking the course website regularly. **Please, arrange your UTORONTO emails to accept the course announcements.**

Office Hours: Students are welcome to ask questions or resolve course-related problems by contacting the Course Instructor either by dropping in during scheduled office hours or by making an appointment. Students are responsible for work missed as a result of absence; the Course Instructors will not re-teach material covered in the lectures and lab sessions.

E-mail communications: The Course Instructors may be contacted via the course webpage on Quercus to get clarification on course-related issues, or to ask brief questions. The Course Instructors will endeavour to provide responses to emails and messages on the Discussion Board within 48 h. Urgent issues must be communicated in person during the office hours.

Missed Mid-term Test: The exact dates of the take-home mid-term tests are provided in the Course Topics schedule. Students who miss the term test will be assigned a mark of zero for the test, unless they can document a compelling reason for missing it. Students in that position must submit a written request to the Course Instructor with appropriate documentation. If a request is accepted for the mid-term test, the weighting of the mid-term will be included to the final exam. **There will be no make-up mid-term tests.**

Final Examination: The take-home final examination will take place during the UTSC examination period in April following the end of the course. The exact dates of the final exam are provided in the Course Topics schedule.

AccessAbility: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca. The sooner you let us know your needs the quicker, we can assist you in achieving your learning goals in this course.

Cell Phones: During lectures and labs please put your cell phones in silent mode to avoid disruption of the class. If circumstances warrant use of your cell phone and you must receive an emergency call,

please inform the Course Instructor at the beginning of the session in advance and then excuse yourself from the session to respond to the call outside the lecture hall or laboratory.

Academic Calendar: Further information about academic regulations and course withdrawal deadlines can be found in the UTSC Calendar. You are encouraged to read this material.

Centre for Teaching and Learning: If you need assistance with effective writing skills, study skills, exam preparation, note taking, or time management, free workshops and advice are available from the Centre for Teaching and Learning, which can be reached at:

http://www.utsc.utoronto.ca/~ctl/Student_Support/index.html

Math & Statistics Learning Centre is now offering students help with any sort of questions they may have related to mathematics and statistics. Our course components involve advanced math skills. If the students are struggling, they are encouraged to drop in at AC312 and use the available general help hours. The schedule can be viewed at the link:

<http://ctl.utsc.utoronto.ca/mslc/>

Computer Use: Ethical use of University computers is expected at the University of Toronto Scarborough. Guidelines are set out in the UTSC Calendar. It is expected that the equipment and/or resources accessed in the UTSC Library and the computer labs are to be used for academic research, assignments, and course activities only.

Academic Integrity: Honesty and fairness are considered fundamental to the University's mission, and, as a result, all those who violate those principles are dealt with as if they were damaging the integrity of the University itself. When students are suspected of cheating or a similar academic offence, they are typically surprised at how formally and seriously the matter is dealt with - and how severe the consequences can be if it is determined that cheating did occur. The University of Toronto treats cases of cheating and plagiarism very seriously.

Examples of offences for which you will be penalized include (but are not limited to):

- Using any unauthorized aids on an exam or test (e.g., "cheat sheets")
- Representing someone else's work or words as your own - plagiarism (see web document "How not to plagiarize" available online at <http://www.utoronto.ca/writing/plagsep.html>)
- Falsifying documents or grades
- Purchasing an essay
- Submitting someone else's work as your own
- Submitting the same essay or report in more than one course (without permission)
- Looking at someone else's answers during an exam or test
- Impersonating another person at an exam or test or having someone else impersonate you
- Making up sources or facts for an essay or report.

As a student it is your responsibility to ensure the integrity of your work and to understand what constitutes an academic offence. If you have any concerns that you may be crossing the line, please, read from the website:

<http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>

and always consult your instructor. Your instructor can explain, for example, the nuances of plagiarism and how to use secondary sources appropriately; he or she will also tell you what kinds of aids -

calculators, dictionaries, etc. - are permitted in a test or exam. Ignorance of the rules does not excuse cheating or plagiarism.

This information is taken from the brochure, "Academic Integrity" and website, part of a series of UT publications to help students understand the University's rules and decision-making structures. For copies, visit the Office of the Registrar at UTSC. All of the policies and procedures surrounding academic offences are dealt with in one policy: "The Code of Behaviour on Academic Matters". The full text is located in the back of the UTSC Calendar.