

Principles of Pharmacology and Toxicology

Syllabus [3 units]

Part 1: Course Information

****LOCATION:** see CANVAS for zoom link

Instructor Information

Instructor of Record: Professor Heather Knych

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Teaching Assistants: Nicole McNabb (namcnabb@ucdavis.edu)
Keegan Malany (kamalany@ucdavis.edu)

Course Description – Why take this class?

This course will provide training in core concepts of pharmacological and toxicological sciences and prepare students to develop higher-order problem solving and critical thinking skills. Content will be delivered via lectures and discussion sessions. The course is designed for advanced undergraduate students with interests in pursuing graduate degrees in pharmacology and toxicology, and for students with an interest in pursuing DVM, MD, Pharmacy, Dentistry and Nursing professional degrees.

Prerequisite

- Upper division standing in a science major
- Chemistry through organic chemistry, general biology, or consent of instructor
- Good standing with the university
- Computing capability (use MS Word®, Excel®, PowerPoint, menu driven software programs, Canvas)
- Own a computer or have ready access to a computer with broadband internet access

Textbook & Course Materials

Required Text (none)

Recommended Texts & Other Readings

- Pharmacology - Principles and Practice. Miles Hacker (Author), William S. Messer II (Author), Kenneth A. Bachmann (Author). 1st edition, 2009. ISBN-10: 012369521X. Copies available in the UCDlibrary. Fully available online – check link on Canvas under resources.

- Goodman & Gilman's "The Pharmacological Basis of Therapeutics". Laurence L. Brunton, Bruce A. Chabner, Björn C. Knollmann. 12th edition, 2010. ISBN-10: 0071624422. Available online at Access Medicine through UCD library at:
<http://www.accessmedicine.com/resourceTOC.aspx?resourceID=651>.
Selected chapters.
- Casarett & Doull's Toxicology: The Basic Science of Poisons. Curtis Klassen. 8th edition, 2013. ISBN-10: 0071769234. Available copies in library. Selected chapters.
- Other readings will be made available on Canvas (marked "recommended" resources).

Course Requirements

- Internet connection (DSL, LAN, or cable connection desirable) Access to Canvas
- Respondus Lock Down Browser
- Self-directed learning activities such as library research, discussion blogs, and team-based activities

Course Structure

This course will be delivered on-line via zoom. For discussion sessions, pre-class preparation and completion of assignments is required. In class participation during discussion sessions is expected. After lecture sessions, students will be expected to take an on-line quiz (via CANVAS; see schedule for due dates). There will also be a final group project with an in-class presentation and written report. See grade breakdown below.

Students will use Canvas to login to the course from the UC Davis login page. In Canvas, students will access online lessons, course materials, and resources.

On-line Course Etiquette

Face to face interactions: Lectures, discussions, presentations

- Login on time and do not logout before the class period ends.
- Treat your fellow classmates with respect in all discussions.

- Focus on the task at hand: no emailing, texting, checking social media, etc.
- Come prepared: do assigned readings prior to lecture, or discussion sections and, when appropriate, be ready to discuss them.
- Feel free to ask questions at any time; chances are that if you ask a question, many people will benefit from the ensuing answer, clarification, or discussion.

Email

- When appropriate, we encourage you to contact the instructor and TAs via email, which is the fastest and best way to get in touch with us. We will make every effort to respond to emails within 24 hours of receiving them, with the exception of weekends.
- Please limit emails to short correspondence only. If your question requires a lengthy response, please arrange a time to meet with us via zoom.
- Note that email remains on the University mail server and is considered formal course correspondence; it should be approached with due care. We will not respond to inappropriate or impolite e-mails, and please note that emails lacking subject headings or appropriate salutations are often caught up in our spam filters and not delivered to us.

Chat rooms and online discussion

- Think before you type– both about what you want to say and about how your comments might affect others. Be concise, clear, and constructive.
- Be polite and collegial. Treat your interactions as you would if you were discussing a topic face-to-face. Don't type anything you wouldn't be willing to say in person.
- Electronic communication is prone to misunderstanding and misinterpretation, so avoid ambiguity, sarcasm, offhanded comments, slang, internet acronyms, and abbreviations.
- **Finally, note that we consider violation of the UC Davis Code of Academic Conduct as a sign of disrespect to the course instructors and your classmates. Out of fairness to all students, any violations (e.g., cheating, plagiarism) will be reported to Student Judicial Affairs.**

Canvas Access

This course will be delivered through the UC Davis course management system, Canvas. To access this course on Canvas you will need access to the Internet and a supported Web browser (Internet Explorer, Firefox, Safari).

Technical Assistance

If you need technical assistance at any time during the course or to report a problem with Canvas you can contact Canvas consultants by telephone or email as provided through campus.

Important Note: This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check Canvas for corrections or updates to the syllabus. Any changes will be clearly noted in course announcement or through Canvas email.

Part 2: Class Format/Schedule

This is an online class.

Class time is for:

1. Explaining and practicing difficult concepts
2. Getting an overview of major concepts, minor points, and how they fit together
3. Asking and answering questions
4. Giving presentations and assessing quality of presentations

Schedule:

See schedule.

Part 3: Course Objectives

Learning Objectives (LO)

1. Develop effective self-directed learning skills
2. Become skilled at locating and properly using information resources
3. Develop effective scientific reasoning and problem-solving skills
4. Produce a group presentation that demonstrates quality verbal and reasoning skills
5. Demonstrate the knowledge to explain absorption, distribution, metabolism and excretion (ADME, kinetics) of drugs and toxicants and how the physiochemical properties of the drug/toxicant influence ADME
6. Demonstrate the knowledge to describe key targets/signal transduction pathways for drugs and toxicants
7. Understand the cornerstones of drug development

Part 4: Grading Policy

Graded Course Activities [may change slightly]

Assessment	Number of Assessments	Total Points	% of total grade
Quizzes (online afterclass)	9	90	40%
Discussion Assignments (upload to CANVAS prior to class)	5	50	22.5%
In class participation (discussions)	5	15	2.5%
Final Group Project Presentation	1	55	20%
Final Group Project Summary	1	70	15%

Assessment Details

1. Online quizzes after class: in the “quizzes” section on Canvas. Graded, due within 72 hours of lecture or discussion (see due dates on CANVAS). It is expected that these will be closed book and you will complete them on your own. There is to be no sharing of questions with classmates. Submit individual work.
2. Assignments: a total of 5 individual discussion assignments will be given. Instructions are handled through Canvas. All discussion assignments are due prior to the in-class discussion session (should be uploaded to CANVAS).
3. Individual in-class participation: each student is expected to be an active participant in class, preferably each discussion session, either through verbal interaction or typing answers in the chat.
4. Group Project: Instructions will be available through Canvas. Group project will involve investigation of a drug, report and presentation.

Late Work Policy

Be sure to pay close attention to deadlines—there will be no make-up assignments or quizzes, or late work accepted without a serious and compelling reason and instructor approval.

Viewing Grades in Canvas

Points you receive for graded activities will be posted to the Canvas Grade Book. We will update the online grades each time a grading session has been complete—typically 3 to 5 days following the completion of an activity.

Letter Grade Assignment (subject to change)

Final grades assigned for this course will be based on the percentage of total points earned.

Your grade will be based on the following scale (**This scale is based on UCD recommendations**):

A	= 93 - 100%	C	= 73 - 76%
A-	= 90 - 92%	C-	= 70 - 72%
B+	= 87 - 89%	D+	= 67 - 69%
B	= 83 - 86%	D	= 63 - 66%
B-	= 80 - 82%	D-	= 60 - 62%
C+	= 77 - 79%	F	= Below 60

Important note: For more information about grading at Canvas, visit the academic policies and grading section of the university catalog

Part 5: Course Policies

Participation/Attendance

Class attendance for lectures is recommended and for discussions is highly recommended to earn participation points.

Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let the instructor or TAs know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

Study Guides

Many students have come to expect study guides to help them prepare for exams. We do not create a list of what to study for you. Here is why not:

1. Learning how to organize, synthesize, and prioritize information is an important part of a college education, and preparation for a professional career.
2. Study guides are personal. Create your own or create a group study guide that provides you with the information you need.
3. This is a course that incorporates student-initiated activities. Creating study guides is one of the activities that must be driven by the individual student.

4. Students in this class are expected to learn and be tested on all material presented in chapters, online, and in class.

Complete Assignments

All assignments for this course will be submitted electronically through Canvas unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested from instructor *before the due date*. Extensions will not be given except under extreme circumstances. Late or missing discussion assignments will affect the student's grade.

Inform Your Instructor of Any Accommodations Needed

If you have a documented disability and verification from the Student Disability Center (<http://sdc.ucdavis.edu/>) and wish to discuss academic accommodations, please contact your instructor as soon as possible. **It is the student's responsibility to provide documentation of disability to SDC and meet with a SDC counselor to request special accommodation *before* classes start.**

Honor Code

Academic dishonesty will not be tolerated. As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

Extra Credit: Email Dr Knych with the code word: "pharmacokinetics" in the subject line prior to the second class session (10/10/2023 4 pm) for 5 extra credit points.

Important Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office of student affairs.

Course policies are subject to change. It is the student's responsibility to check Canvas for corrections or updates to the syllabus. Any changes will be posted in Canvas.