

PHM 387M
Fall 2016
Course Syllabus

Course Objectives:

This course is designed to review certain concepts presented in various general and physical chemistry courses taken in the pre-pharmacy curriculum and address how these influence the safety, effectiveness and reliability of medicinal products. After completing this course students should be able to do the following:

- **Understand the rationale and theory** used to describe and monitor biological (drug absorption) and physical (drug solubility, drug degradation) processes routinely encountered in pharmaceutical practice.
- **Accurately and adeptly perform calculations** based upon general chemical principles to predict how medicinal preparations will perform in the body as well as in a given dosage form on the pharmacy shelf.
- **Critically evaluate given data sets** to identify parameters that dictate how safe, effective and reliable a given medicinal preparation will be and how these could be altered to improve drug efficacy in given situations.
- **Appreciate** that this knowledge will not only form a basis for understanding concepts introduced later in the curriculum but is critical for the evaluation and preparation of any dosage form prior to dispensing them to a patient.

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Required Materials

The content of this course will require students to assess data and perform calculations. Thus, all students **must** have a **Texas Instruments TI-36X-Pro calculator**. There are **no exceptions** to this requirement. This calculator must be brought to all pre-laboratory lecture sessions in order to complete the quiz problems and to the laboratory in order to complete the assigned activities. For 387M, calculators will help in some of the active learning activities. Calculators will not be provided. **Students that arrive with any other type of calculator will be turned away from all exams and quizzes.**

Computer Use

All students are required to have access to computers. Although you are not required to use a computer during this course, it may be useful for some of the laboratory assignments (PHM187P).

Course Prerequisites

Prior to enrolling in the course, students are to be in the first professional year of the pharmacy curriculum and have successfully completed the prerequisite mathematics and chemistry courses including algebra, calculus, and general chemistry and will be held responsible for understanding the concepts presented in these previous courses. In addition, students must also be concurrently enrolled in PHM 187P Physical and Chemical Principles of Drugs Laboratory.

The Canvas Learning Management System

Lecture notes and “Take Home Messages” will be posted online on Canvas unless otherwise stated. You can access Canvas by going to the following link <http://canvas.utexas.edu/>. This will bring you to a prompt that will ask you for your UTEID and password. This will be the place to go for obtaining lecture handouts and revisions, viewing new announcements and postings, turning in assignments and viewing your grades.

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Class Format

Monday session: Start at 9 AM sharp!

9:50 - 10 minute break

10:00 AM - Continuation of lecture

10:50 AM - Adjournment

The Friday lecture will be run in a similar manner without the break at the end of the first hour.

To get the most out of this course

- a. Class attendance is expected.
- b. Be on time.
- c. **Be quiet** when entering the lecture room if class has already started. Your colleagues will thank you later for not distracting them from hearing what is going on.
- d. Review your notes (or Take Home Messages at the minimum) prior to class and come prepared with questions if something is not clear.
- e. If you find that you do not understand specific concepts after attending class and reviewing your notes, **make time to visit Dr. Ghosh or your Teaching/Academic Assistants during their office hours!** Students that have not done well in the course have not followed this last suggestion and, as a result, did not address deficiencies in understanding concepts until it was too late.

Course Grading

Four examinations will be given: three mid-term exams and one final exam. Each of the exams will be of equal value and will count as 25% of the course grade. The final exam is **comprehensive and also covers material after the third midterm**. The final exam will also count as 25% of the course grade.

Grades will be based on the calculated semester average according to the following formula:

$$\text{Semester average} = (\text{Exam I})(0.25) + (\text{Exam II})(0.25) + (\text{Exam III})(0.25) + (\text{Final Exam})(0.25)$$

Grade assignments will be as follows:

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

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Examination Dates

The exams for PHM 387M will be given on the following dates at the following times:

September 29, 2016	Exam I	7:00-9:00 PM	Welch 1.316
October 20, 2016	Exam II	7:00-9:00 PM	Welch 1.316
November 10, 2016	Exam III	7:00-9:00 PM	Welch 1.316
Final	Final Exam	TBA	

Examination Policies

Examinations will begin promptly at their scheduled times. Students who complete the exam early will be required to remain in the exam room during, at least, the first half of the exam period. After the first half of the exam period is over, students who have completed the exam may leave the room after turning in their exam. **Students who arrive at the examination room after the exam has been handed out will not be given additional time to complete the exam.** Students who arrive at the examination room after the first half hour of the scheduled exam period is over will not be allowed to take the exam and will receive a score of '0' for that exam. During the exams, students are required to place their bags and other belongings in the front or side of the classroom. Therefore, this environment MAY NOT be conducive to carrying a concealed weapon (<https://campuscarry.utexas.edu/>). Please be advised that it is the licensed carrier's responsibility to be compliant with the University's policies.

Midterm exams will be graded and promptly returned to students. The final exam will be comprehensive and will not be returned. Students will need to present their identification cards in order to review the graded final exam. No exceptions will be made.

No allowances will be made for an exam being missed, other than by written statement from a physician in the case of personal illness. If an exam is to be missed, the instructor must be notified **prior** to the time when the exam is scheduled. If permission is granted by telephone at the last minute (e.g. due to sudden illness) the student must confirm the request in writing as soon as possible (see College Policy on Rescheduling an Exam below) and provide the instructor with a **written medical excuse** for the absence. In this event, the student will be required to take a make up exam as quickly as possible. This exam may be of the format selected by the instructor, which may not be the same format given during the examination time (i.e. oral, essay, etc.). **Any unexcused absence will result in a score of "zero" for that exam.**

Posting Student Scores

Students can access their exam scores via the Canvas page for this course. This can be accessed by logging on to UT Austin Canvas using your UTEID.

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Academic Dishonesty

The “**Statement on Scholastic Dishonesty of the College of Pharmacy**” reads as follows: ”Pharmacy practitioners enjoy a special trust and authority based upon the profession’s commitment to a code of ethical behavior in its management of patient affairs. The inculcation of a sense of responsible professional behavior is a critical component of professional education, and high standards of ethical conduct are expected of pharmacy students. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including failure of the course involved and dismissal from the College and/or the University. **Since dishonesty harms the individual, fellow students, and the integrity of the University and the College of Pharmacy, policies of scholastic dishonesty will be strictly enforced in this class.**”

Students are expected to work independently on all examinations and on all laboratory quizzes (unless specifically instructed otherwise). Any student caught cheating will be given a “zero” on the assignment **at a minimum**. Any student suspected of dishonesty will be reported to the Dean of the College of Pharmacy and to the Dean of Students, as per University regulations. Students are expected to have read and understood the current issue of the General Information Catalog published by the Registrar’s Office for information about procedures and what constitutes academic dishonesty. Students are also expected to be familiar and abide by the College Honors Code, and will be expected to sign the Honors Statement at the end of each examination. **If a student turns in an exam without signing this statement, they will not receive a grade until they meet with Dr. Ghosh to discuss this issue.**

The Honors Statement

I have neither participated in nor witnessed any acts of academic dishonesty pertaining to this exam.

Printed Name _____

Signed Name _____

Post-Exam Remarks and Reconsideration Requests

If a student believes that an error has been made in grading an exam question, the student will be required to provide their exam along with a *written justification* explaining a) why the answer they chose was correct and b) why the answer indicated on the key is incorrect to the course instructor within **one week** of the exam return date. This will allow the error to be corrected in a timely manner. **After the one week period for corrections, NO ADDITIONAL CHANGES will be made to exam grades. For some helpful hints about submitting re-grade requests, please see the section titled “Excerpt from an Essay on Submitting Grade Reconsideration Requests” on the last two pages of this document.**

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Final Exam Re-Examination Policy

Re-examination on the final exam (as described in the University's policy on "Re-Examination Petition") will not be an option in this course.

Campus Carry

Students should familiarize themselves with the information provided by the University regarding the implementation of "Campus Carry" legislation. You will find an information sheet specifically for students (as well as sheets for parents, visitors, faculty, and staff) at <http://campuscarry.utexas.edu/info-sheets>.

Students with Disabilities

The University of Texas at Austin provides, upon request, appropriate academic accommodations for qualified students with disabilities. All University rules concerning accommodations must be followed, including the student arranging for special accommodations **prior to each examination with Dr. Ghosh**. Please contact Services for Students with Disabilities at 512-471-6259 (phone), 512-410-6445 (video phone) or ssd@austin.utexas.edu (email) as soon as possible to request an official letter outlining authorized accommodations. Then submit your accommodation paperwork to Dr. Ghosh immediately thereafter. In the absence of such **pre-arrangement**, the student will be expected to take the exam with the rest of the class at the regularly scheduled exam time.

Electronic Devices

To be courteous of others, please turn off or silence your cell phones prior to attending class. Except for calculators, use of electronic devices is prohibited during exams and quizzes.

Accommodation for Religious Holidays

By University policy, you must notify the instructor of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class or an examination in order to observe a religious holy day, you will be given the opportunity to complete the missed work within a reasonable time after the absence.

Emergency Evacuation

Please refer to the Office of Campus Safety and Security (512-471-5767; <http://www.utexas.edu/safety/>) for recommendations regarding emergency evaluation.

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Lecture Schedule

<u>Date</u>	<u>Lecture #</u>	<u>Topic</u>
10/21	13	Introduction to Acid Base Equilibria
10/24	14	Acid Base Equilibria and Solubility
10/28	15	Acid Base Equilibria and Biological Buffers
10/31	16	Buffered Solutions and the Henderson Hasselbalch Equation
11/4	17	pH and Drug Solubility
11/7	18	pH and Drug Absorption
11/10		Exam #3 7-9 pm, Welch 1.316
11/14	NO CLASS!	AAPS
11/18	19	Introduction to Chemical Kinetics
11/21	20	Chemical Kinetics -Rate Laws and Order of Reaction
11/25		No lecture – Happy Thanksgiving!
11/28	21	Temperature, pH and Drug Degradation Processes and Methods of Data Collection and Analysis to Assess Drug Stability
12/2	22	Rheology
12/5	23	Diffusion and Fick's Law

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Excerpt from An Essay on Submitting Grade Reconsideration Requests

by Prof. Patrick J. Davis, Senior Associate Dean 5/18/03

Definition: You are *requesting* that a faculty member *reconsider* your answer to a specific question(s) based upon additional documentation or explanation. Therefore, these are neither *challenges* nor *contesting* of the question; they are reconsideration *requests!*

The Approach: Since these are *requests for a re-grade*, not *challenges*, it would be in your best interests to start your request professionally and with courtesy, for example:

- “I am submitting question #3 for reconsideration based upon...Thanks you for your consideration.” -or-
- “I am writing to ask that you reconsider my answer for question #3 based upon...”

but not-

- “I thought this was a dumb question!” -or-
- “I am contesting question #3. I felt that this question was not testing our knowledge of the material but our ability to memorize odd facts. I studied extremely hard for this exam and felt like I knew the material, but I did not memorize how many amino acids were in each hormone.” [anonymous quote, 2003]

NOTE - When designing your request, is important to provide documentation to support your case. This documentation many include statements from textbooks, handouts, packets or current scientific publications. **A student's lecture notes are not authoritative documentation.**

Other things to be considered when drafting re-grade requests:

1. Rarely will you be successful in using old exams as your justification.

- “This question was very similar to question #17 from the 1999 exam, and the answer was ‘D’ (which is what I put).” [anonymous quote, 2003]

It could be that the question on the previous exam was thrown out because of poor statistics, and so the old exam copy you have has a ‘wrong’ answer for which all students were given credit. That doesn’t make it correct. This is one reason why I will post previous exams in an ‘unanswered’ form (for you to use for self-evaluation) and then post the keys separately.

In relying on old exams, you should also understand that the information may have changed!

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Other things to be considered when drafting re-grade requests (continued)

2. You may want to have a colleague read your statement for feedback before you submit it for faculty consideration. Examples:

- *“In lecture, you said that side-effects included agranulocytosis, thrombocytopenia, hypoprothrombinemia, and aplastic anemia. But on the test you said blood dyscrasias so I marked it false! You never once mentioned blood dyscrasias! [anonymous quote, 2003]*
- *“You said ‘drug of choice’ in the question, but you didn’t ask which one is primarily the best, so I thought any drug on the list used for treatment was appropriate.”[anonymous quote , 2003]*

3. Never, never, never use as your justification “I need the points”.

The decision on a reconsideration request belongs to the faculty member authoring the question, but all Course Coordinators caution their faculty to *not* consider this “justification” *in any way* in their deliberations. This is *never* an appropriate justification for awarding points, and it simply isn’t fair to the other students to make it a basis for awarding points. Should a student 1 point from a “C” be given the points for a “B” *just because they asked for them*, while another student with the same score be assigned (and accept) a “C”? What is that faculty member to do when the second student finds out the first was awarded the points just for asking?

4. Just because you can find an article supporting your position doesn’t *automatically* mean that it is correct or that you should be given credit.

Part of the faculty member’s responsibility to is to stay current with their field, which involves reading, reviewing, and distilling the often-time copious & conflicting material relevant to their field to create their learning environment and define the content they present to you in class. The faculty member will make their decision on the article/text you cite in the context of their full knowledge of the field and what they present to you in class.