

Pharmacology 210 — Fall 2009
Pharmacology and Therapeutics for Nursing
Course Description and Policies*
REVISED 9 September 2009 (Correction of final exam date and time)

About Pharmacology, Therapeutics, and the Course

Welcome to "Pharm 210." This course is designed to *introduce* you to pharmacology and therapeutics, and give you a foundation for life-long learning that will be essential for optimal and safe nursing. Pharmacology studies the effects of chemicals (drugs) on living systems. Therapeutics is the use of drugs to treat, diagnose, or prevent illness. The course focuses on major drugs used in human therapeutics: how they alter body functions; their desirable and (especially) undesirable effects; how diseases or other drugs can alter responses to drugs; and when and why certain drugs should or shouldn't be given to a certain patient. There is a solid foundation of basic pharmacology content, but it's oriented towards clinical application by nurses.

Pharmacology and therapeutics are the fastest changing of all the basic clinically applicable sciences, and we strive to keep the content current. Drug therapy is also inconsistent some times. Patients with the "same" disease may be treated differently, and those different treatments may be right or wrong. In this course you'll learn "generally accepted and safe" drug therapy, and why that's so. You'll also learn to recognize and hopefully avoid common medication errors: they happen!

My goal isn't to teach substitute doctors, but nurses *do* have many roles that once were exclusively those of doctors; those roles are growing, like it or not. And nurses and doctors (or nurses and doctors-to-be) must share some common knowledge to work together. Nurses play an essential role in the checks-and-balances system that helps ensure that *all* care providers in a team give optimal health care, and the patient gets it.

For many years data indicate that medication errors rank very high on lists of "frequent causes of death" in the United States. It's a big problem. So, course material reflects the increasing expectations and needs of your co-workers and your patients, and your professional responsibilities.

Students in nursing pharmacology courses at most other schools often do little more than memorize lots of facts about drugs, and don't understand the "whys." That's partly because of the old stereotype that doctors do all the thinking and they're always right; nurses just follow orders and don't need to think or know much. That isn't true any more!

There will be lots of essential facts to learn in Pharm 210, but you'll be expected to understand principles and concepts behind the facts — to *think* and apply what you

* **Subject to change.** Changes will be announced in class and posted on website.

learn to new situations — so later you are prepared better make proper evaluations, decisions, and recommendations, in real-world clinical settings. Good nurses don't just "do what they're told" — they must think first, then decide what to do. Thinking depends on memorizing some basic information, but it goes way beyond rote memory.

Consider this: In hospital settings, in particular, the nurses, not the doctors, have the greatest contact with patients; they administer most drugs; they have the most opportunity (and obligation) to detect changes in a patient's condition; and have the responsibility to make at least the initial assessment of those changes so some correct action can be taken if it's needed. In some cases, there's no time to wait for a doctor: the nurse needs to act quickly and correctly. That requires knowledge and confidence in that knowledge. Knowledge also means being able to say "I don't know exactly what's going on, but what I'm seeing, or what the patient is telling me, just isn't 'right.'" Start building your knowledge now and your confidence and ability to deliver quality care and safe care will grow.

If drugs caused only good effects, if medication errors never occurred, you'd have much less to learn. Your job (and mine) would be easier. However even a "harmless" aspirin tablet can cause serious harm or death in some patients. It could happen to your patient, a friend or relative, or to you. You need to be knowledgeable to help avoid, recognize, and deal with these problems.

Even in a doctor's office, clinic, or other setting, a nurse usually has first contact with a patient, friend, or family member who seeks advice. You may be the only person helping another person decide whether to get further professional care. And, in some states, the nurse is a prescriber of certain medications. Nurses also have the major responsibility for *patient and family teaching* about how and when to take drugs, why they are prescribed, what to expect, what to do if problems arise, what other drugs to avoid, etc.

Lastly, you are a consumer of drugs and health care. Is the "pain reliever recommended most by doctors" right for you? When you shop and see 30 different cold meds on the shelf, do you know which to pick? Is the most expensive one the best? The one with the most ingredients? Should *you* take any drug prescribed by a physician or given by another nurse you never saw before? You need to protect yourself, and be a smart shopper. You'll find this type of practical information in the course too.

The Prototype Approach

It's impossible (and totally unnecessary) to learn (or teach) about all the thousands of prescription and nonprescription drugs available in the US — drugs you patients may be taking, but ones we've never covered in class. That's why lectures and your text book focus on *prototypes* — *drugs that are most representative of their class*. Learn prototypes and you'll almost automatically learn much of what's important to know about many other related drugs, most of which are "me-toos" — drugs that are far more similar to a prototype you learned about than they are different. This approach dramatically reduces information overload.

I'll prove this to you on exams! I'll write questions about a drug you never read or heard about, and expect you to give the right answer about such things as its clinical use, or expected side effects or contraindications or interactions, and more.

How can I do this horrible thing — asking about drugs we never “covered” in class — to you? Because I'll describe the drug in such a way that you should instantly recognize it as very similar to a drug we have described in detail as a prototype. This assumes, of course, that you've studied the prototypes we've presented in class. Beware, however: you'll still learn about several hundred drugs in this course! It's unavoidable if you need to learn *just the basics* — and you do.

Overall Course Organization and Policies

Class Time and Attendance

Lectures are from 2:05 *sharp* to 3:50 PM on Tuesdays and Thursdays. Almost all exam material will be presented in class, so spend most of your study time on that. Copies of the slides presented in class will be posted before lecture on my course website (see below). However, because the course material is new to virtually all of you, because students have different study and learning habits, and because there's not enough lecture time, make use of all learning aids — instructors, TAs, old exams, and especially your text book. Yes, you need to read the textbook (see below).

I don't take attendance; coming to class is your choice. However, my goal is to make coming to class worthwhile for you. Many students who evaluated the course over many prior years indicated that missing class almost certainly *hurt* their grades, and it certainly deprived them of the opportunity to ask questions about material that's fresh in their minds.

Text Book

The required text is **Pharmacology for Nursing Care**, 7^h edition, by Richard Lehne (published by Saunders/Elsevier). This edition was printed in August of 2009 and is about as current as you can get. This book is the best on the market, and it will serve you well for Pharm 210 and as a reference many years hence. Can you “get away with” the previous edition? Yes, but I advise against using the old edition, no matter how cheaply you may be able to buy a copy of it.

We won't “cover” all the chapters in the book, nor everything in the chapters that are assigned. But you must realize the book is not a novel that you start reading at page one and continue all the way through to the end. You need to realize that this is a book to aid not only your learning now, but also an outstanding resource for you to get information you'll need later on, as the expectations for what you need to know grows, as it certainly will.

Read all the assigned text chapters. Depending on your individual learning style, you may want to read them before we talk about the material in class; or, you may like to read

the text after lecture to review material that may not be crystal clear from class. Regardless, read it. The chapters are short, the entire text is student-friendly (see comments on the back cover of the book).

Familiarize yourself with information presented in lectures or assigned as self-study (and in the posted slides), **then focus on the corresponding sections of the text:** the introduction (e.g., an overview, and general characteristics of a group of drugs); pharmacologic effects of the prototype (how the drug works, what it does); clinical uses and administration (how it's used and given); and side effects, adverse reactions, and contraindications (i.e., the problems).

You can ignore (for purposes of exams in this course) information about specific drugs that are presented in the text but are not found in the class slides. As the course progresses you'll soon learn what I stress in terms of what I want you to learn.

Lectures vs. Self-Study

The topics scheduled for presentation as lectures are fairly complete. Some topics aren't covered as lectures — and some that are scheduled for lecture presentation may have to be changed to a self-study assignment. In part, that's because of time constraints; in part, it's to help develop your self-directed learning skills, which you'll need to rely on throughout your career. It's a fact of life that there are many things you're going to need to learn throughout your career, and you're not going to have someone standing up in front of you in a classroom “teaching it” to you.

Thus, there will be self-study assignments. When those come up, there will always be slide sets posted on the web. I expect you to read assigned chapters in the text.

The Course Web Site and What's In It

You can get to the course home page, with optional study materials, on the Internet at:

<http://www-personal.umich.edu/~mshlafer/pharm.html>

When you arrive there, click the “Nursing” button near the top.

Please bookmark only the URL listed above for access to your course-related material. Of course, you're may poke around the other parts of the site that you can get to from the above page. And, as noted below, I especially want you to visit the “links” page and some of the sites that are listed there.

The part that you'll be visiting most is a table showing your course (lecture and exam) schedule. For just about every lecture you'll see not only the date, lecturer, and reading assignment, but also a lecture topic title and a column marked “slides.”

Course syllabus (lecture schedule)

That's at the website too. Official changes will be made on the schedule posted there and announced in class.

Slides (PDF files)

I post on my web site the slides I present in class so you can view (or review) them at your leisure, and not feel compelled to write down everything you see on the slides while you're in class. The slides will be available for you at least 24 hours before each lecture on the topic. In making these slides available to you, I hope you'll have a better opportunity to listen to what we're talking about, and not be distracted by writing.

Many posted slide sets have more slides than I have time to show in class. The extra content is mainly for extra explanation or to review something that's been presented before. Indeed, some presentations in the middle and end of the term contain slides you've seen before, precisely because I want to refresh your memory by showing you something familiar.

Sever former students said that having all the lecture slides on the web seemed to provide a "good" reason to skip class. But most students who skipped class didn't do well, grade-wise; others admitted that just reviewing the slides, without having the benefit of in-class discussion of what the stuff really meant (or what was "testable" as opposed to being for "informational purposes") made studying more difficult and time-consuming. Their grades suffered.

Old exams

You'll find last year's exams on the web site. The format is similar to your tests. *Look at the old exam questions long before you start to study for your exams.* Get a feeling for what was tested before, then use them as a self-test several days before yours to see how well you're prepared.

I do not give out a key for old exams. I expect you to figure out the answers (they're all in your slides or in the text!) because that's an important part of the learning process. If you're still stumped after reviewing your notes and your text E-mail me (or the instructor who gave the lecture, or one of the TAs); paraphrase the question(s) you're having trouble with (so we don't have to look up the question); and give your reasons why you think a particular answer is right (or others are wrong). Then we'll let you know whether you're right, or lead you through the reasoning so you can arrive at the right answer.

The "Links" Page

Although it's optional, check out the "links page." Some useful information on that page will be in the Nursing section at the top of that page. However, you'll find much more in the "For All" section at the bottom of the page. You'll find links to nursing and medical web sites and other pharmacology/drug/therapeutics pages that will be a good reference if you want to look up information on a drug that's not in your notes or text book. *If you have a personal or special interest in a drug that's not in the text or lecture, I expect you to look up the information via the links, or just do a Google search, before you contact me with your question.*

E-mail

Check your E-mail every day: I'll be sending lots of E-mail to you throughout the term to keep you posted of new developments, clarify points that may have been unclear from class, and so on.

Don't hesitate to send me an E-mail (*mshlafer@umich.edu*) if you have *any* questions about lectures, about drugs, or about the course. (Be sure, however, that if your question is about testable material you double-check your notes and seek the information that may answer your questions in the text book first.) You'll usually get a reply (or at least an acknowledgement) in less than 24 hours.

Also, if you have questions about material presented by the "guest lecturers" — including the TAs — E-mail them directly. They are expected to be available by E-mail to answer your questions. Their E-mail addresses will be posted in several places, so you shouldn't have any trouble contacting them.

Teaching Assistants and Office Hours

Two pharmacology grad students — Jason Kehrl (*jkehrl@umich.edu*) and Kadee Luderman (*luderman@umich.edu*) are our TAs. You can contact them by E-mail (addresses on the web site too) or catch them before or after class. Use their *free* help!

Study Groups, Tutors, and the Like

Despite what some students claim about their learning styles, most have found that dedicated *studying* with a small group of classmates helps each other learn the material. It seems to work best for pre-test studying, particularly reviewing last year's exams. I encourage you to form a study group and try it out. When you start working as a nurse you'll be part of a team; working in isolation just won't be possible, nor in the best interests of your patients. Some students have also blamed their academic difficulties on not being able to get a personal tutor or a peer facilitator. We do not provide tutors or facilitators; if you're in the School of Nursing, contact them for advice and assistance. You may also contact our course Teaching Assistants and negotiate a schedule, and fees, for one-on-one help beyond their one hour a week obligations for helping any students.

Exam Times and Policies: Important!

Exams #1, #2, and #3 will be given from 6:00 to 7:30 PM on certain **Wednesday** evenings (see schedule). The 4th exam will be given on "final exam day," Details about the where and when for the final will be provided as we near the end of the term.

You may begin the Wednesday exams anytime after 6 PM, *but you will not be allowed to start after the first person to be finished has left the room.* If you walk in after the first person's done and gone, you will not be able to reschedule the exam for a later date. In other words, you get a zero on the exam. So, be on time.

When you're done with your exam you must return the exam booklet and answer sheet to the TAs, who will mark your name on the class list. It's *your* responsibility to make sure

this is done before you leave. If your name is not marked off the class list or if we have no answer sheet or exam booklet for you, your grade for the exam is zero.

There are no make-up exams. I don't make special exams for students who can't take an exam at the scheduled time. If you can't take an exam at the scheduled time *and you have prior approval from me to take it late*, you must take it by Monday of the following week. Otherwise, you get a zero on the exam. I do things this way out of fairness to the class overall. Since I can't return exams until all eligible students have taken the test, and because the vast majority of students (like it or not) study hard to take the tests on time, I have to impose constraints.

What if you're too ill to take an exam on time? If you want or need to take the test late because of illness you need a note *from a physician that explicitly states you were too ill to take the exam on time*. It has to be on "official paper," such as the doctor's, clinic's, or hospital's stationery, or on a prescription form. It has to give the date of the missed exam. It has to be signed by the doctor, and there has to be a call-back number (phone or pager) that I can use to verify things.

Influenza Considerations for Exam Policies

I have received no information from central campus about exam policies as they may be affected by a flu epidemic, so these are my course policies:

Longstanding Pharm 210 policies state that if you cannot take an exam on-time, you must take it by the Monday following the regular Wednesday evening exam date. That policy still applies.

If you have influenza or any other acceptable (by me) and documented reason why you cannot take the regular exam by the following Monday, you can petition (by e-mail to me) to take an exam on the tested content after the course is over. In such a case your grade will be reported initially, at the end of the semester and on your transcript, as Incomplete. You will have the time allowed after semester end to take the missed exam as stated by central campus. However, the date and time of any such make-up exam will be determined by the TAs and by me.

The exam you will take will cover the content on the regular exam, but the questions will differ, the number of questions may differ, and the format of the questions may differ from the usual multiple choice format. That is, you will not take the same test that your classmates, who took the exam on time, had to answer.

If you have a documented and approved deferral of more than one exam, you will take both exams on the same day.

What if you can't take an exam on time because of a conflict with work or another class? If you have (or even think you have) a conflict, you should start working out a solution right away so you can take our exams on time. If you can't make other arrangements for the conflicting activity, you need to provide me with a letter from your work supervisor (or teacher, if the conflict is with another class). It has to be on official stationery (from the job site, or from the school that runs the class); it must state the date of the conflicting exam, and state that it was impossible for you to rearrange things to be able to take the exam on time. It has to be signed by your work supervisor or instructor; it must have the signer's work/school e-mail address (hotmail or yahoo accounts, and the like, aren't acceptable); and there has to be a call-back number for the signer at their work-site (or teaching department). I need all this information so I can verify the information, if I am inclined to do so.

If you have a work conflict with more than one exam, one letter or e-mail from your supervisor or teacher can get you a deferral from them all, provided I find the note satisfactory and all the information requested above is included. However, the dates of *all* the exams/conflicts must be indicated on the note, along with all the other information noted above.

If you need special accommodations because of a disability I will be glad to help. I'll need a written request for that from the Office of Services for Students with Disabilities. If you have a certified learning disability I will give you up to double-time to take the exams, proctored and in a separate room (if requested); you will have to take them on the same day and at the same time as regularly scheduled, or at some other time I specify.

Nonacademic activities (including vacation/Spring Break plans) are not acceptable excuses for taking an exam late. I've put two kids through college, another is there now, and wouldn't dream of planning a family activity that conflicted with their classes or, especially, their exams. I won't give permission for a late test under those circumstances.

What if you have a question or concern about your exam score? You have seven (7) days from the date exam scores are posted, or exams are made available to the class for pick-up (whichever comes first), to make any inquiry about your exam score. In order for there to be any consideration or adjustment of your grade, you must go over each question on your exam and identify those questions that you think were improperly graded, and provide a reason why you think each question was graded incorrectly. You must make this inquiry in writing (by e-mail is fine) to Dr. Shlafer.

The Final Exam (which covers material tested after the third exam, and selected material from Exam 1) is from **4:00 to 6:00 PM on Wednesday, December 16th**. This is set by the Registrar's Office on central campus, and I cannot administer the exam at a date earlier than what is scheduled. (The registrar's office will consider written petitions for a change if you have four final exams scheduled on the same day. It is your responsibility to contact them if you have that problem.)

Course Grades

These are calculated from your grades on four "section" exams. Each of these will have about 50 questions. Most questions will be multiple choice, but I reserve the right to include short answer or "fill-in-the-blank" questions too. There are *no* "extra credit" activities beyond the exams, such as writing a paper, to improve your grade.

The overall course grade will be computed by averaging the scores of all four exams. Assume "straight scale" grading: A > 90%, B = 80% - 89%, and so on. Plus and minus grades are assigned.

Important note for nursing students: As you know the Nursing School has a policy in which no grade less than a "straight C" is considered "passing." For my course, under my grading system, a cumulative average of 73% is considered the minimum for receiving a straight C. My course is not given by the School of Nursing, and I am under no obligation to use their scale for assigning grades.

Honor Code for Nursing Students

The School of Nursing has asked me to advise all nursing students of the following:

"Nursing students are bound by the School of Nursing honor code in all coursework completed for the BSN degree. This includes any and all assignments, examinations, and laboratory/clinical experiences."
This includes Pharmacology 210.

A Note In (and On) Passing

Comments from students over many years indicated that just about everyone in the class had the same (heavy) course and clinical load, as well as similar job, family, and social obligations or desires. The students who self-reported as "doing well" in the course made a conscious effort to budget their time; come to class, read, study and organize their notes often; make flash-cards or outlines or other self-help aids; organize study groups or other activities; and review old exams early. In other words, they took responsibility for learning the material, and they succeeded. Students who didn't do well typically commented that they "didn't like" the book, or the course, or the instructors; had too many other things to do; or "weren't given tutors" or special help. In other words, not doing well was someone else's fault, or involved things beyond their control.

The key to passing Pharm 210 is spending adequate time on out-of-class studying, starting to do this at once so you don't fall behind, and getting help before it's too late.

There's a lot of information presented in later parts of the class that will depend on your knowledge and understanding of things presented earlier. *Get behind early on and you will have a tough time later.*

For Pharm 210 most of you should consider "adequate" study time to mean far more time than you've spent on any other course you've had. Study habits that "just got you through" other courses won't work for Pharm 210. That's not my advice: it's what most students who have taken Pharm 210 over the last 25+ years have said time and again.

Countless students have stated that Pharm 210 was the hardest, most challenging course they've ever taken. Most of them have gone on to say that it has also been one of the best, and most important, of all their courses.

The Bottom Line

Let me be blunt, and tell you why I think this is one of the most important (if not the most important) courses in your undergraduate nursing curriculum, and why you can't treat this course as "yet another" required course you have to, or can, "just get through."

- Medical mistakes rank in the "Top 10" list of most common causes of *death* in the U.S. each year, and most of those deaths are related to drug errors. Lots of people die.
- Each year there are hundreds of thousands of serious (and sometimes fatal) medication-related complications. Lots of people get harmed from the drugs they've gotten or taken.
- Many of those medication-related problems involve, in one way or another, an error of judgment or knowledge on the part of a nurse.
- *You've decided* you want to be a nurse, and so accept the responsibilities and understand the consequences of your lack of knowledge or thinking. You're going to be involved in the daily care of patients' lives.

Best wishes, and good luck.
Dr. Shlafer