Pharmacology 203  General Pharmacology
3 credits CRN 64463 and 64615 (online)
CRN 64109 (Face-to-face)

INSTRUCTOR: Allison Beale
OFFICE: Office hours in Imiloa 133
OFFICE HOURS: 9:00 a.m. – 10:00 a.m. TR
And by appointment
TELEPHONE: Please use email
EMAIL: abeale@hawaii.edu
EFFECTIVE DATE: Fall 2013

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O‘ahu’s Ko‘olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

This course is intended for students in nursing and allied health fields. It covers a wide range of drugs with emphasis on sites and mechanism of action, toxicity, fate and uses of major therapeutic agents.

Prerequisites: Grade of "C" or better in ZOOL 141 and ZOOL 142.
Recommended Preparation: College level chemistry.

Activities Required at Times Other Than Class Times (this course is ONLINE)

1. Self study
2. Assignments
3. Extra credit

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are as follows:

1. Describe the basic mechanisms of drug action.
2. Demonstrate knowledge of the terminology and special concepts useful in the study of pharmacology.
3. Describe how differences between individuals govern their response to drugs.
4. Define how drugs are processed and biotransformed by the body.
5. Identify frequent complications and side effects associated with the major drug classes.
6. Describe significant interactions between drugs
7. Use information from the pharmacokinetics of a specific drug to determine dosing schedules and best route of drug administration.
8. State the therapeutic uses for each major drug group.
Additionally, WCC recognizes four General Education Learning Objectives that can only fully be achieved by completing a variety of courses. PHRM 203 strives to fulfill outcomes related to the following General Education Learning Objectives. To learn more about these objectives, go to the WCC home page and search for General Education Mission Statement or General Education Student Learning Outcomes, or click HERE.

1. Critical Thinking and Creativity
2. Communication
3. Information Literacy
4. Global and Cultural Awareness

### COURSE CONTENT

<table>
<thead>
<tr>
<th>Concepts or Topics</th>
<th>Skills or Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacokinetics</td>
<td>1. Identify the use of a given drug</td>
</tr>
<tr>
<td>Pharmacodynamics</td>
<td>2. Identify warnings for a given drug</td>
</tr>
<tr>
<td>Drug discovery and development</td>
<td>3. Pronounce generic names covered in class</td>
</tr>
<tr>
<td>Regulatory controls</td>
<td>4. Recognize stems and what they mean</td>
</tr>
<tr>
<td>Drug label information</td>
<td>5. Identify the class of a given drug</td>
</tr>
<tr>
<td>Drug hazard warnings</td>
<td>6. List &amp; explain variables affecting therapeutics</td>
</tr>
<tr>
<td>Uses and abuses of pharmaceuticals</td>
<td>7. Conduct online searches for drug label information</td>
</tr>
<tr>
<td>Medication errors</td>
<td></td>
</tr>
<tr>
<td>Patient education</td>
<td></td>
</tr>
</tbody>
</table>

### COURSE TASKS

**INSTRUCTIONAL METHODS FOR THE ONLINE COURSE REQUIRE A HIGH DEGREE OF SELF-MOTIVATION:**

1. Lecture – understand PowerPoint lecture material.
   a. You will have options, you may choose to:
      i. Read the assigned text book chapters (required)
      ii. Listen to the recorded audio OR videos of the lectures (these are optional)
         1. Most students find it most helpful to listen to the audio, then read the text.
2. Interactive sessions – may include pronunciation drills of drug names.
3. Self-study – assigned reading, memorizing drug names (using flash cards or other techniques), completing SLO practice sets in the Laulima tool called Tasks, Tests and Surveys.
4. Quizzes and Examinations – complete daily quiz at start of class as well as midterms and a final exam.

This course is semi-self-paced through the corresponding University of Hawaii academic semester. It is STRONGLY recommended that you follow the chronological order of topics as listed in general schedule of lectures found in this syllabus. This will make it easier for you to keep up with the frequent quizzes and will ensure that if you do find yourself unable to progress on your own, you may join the face-to-face reviews, and potentially, if there is room, the face-to-face class. It will also ensure that you are studying the same material that is being posted online and covered in class for the face-to-face section.

AGAIN, it is strongly recommended that you keep to the schedule posted. Until you get into trouble it will be very challenging to appreciate the difficulty you will have on your own should you get behind.

Understand that IT IS NOT EASIER to take PHRM 203 online than it would be to take the course in the traditional classroom setting. In fact, unless you are very organized and self-motivated, you may find it very difficult to
continually make the effort not only to memorize all the drug names, but to also learn about the kinetics and dynamics we cover.

If any student, in either the online course or the face-to-face section, emails me a question or a concern, I make a practice of availing all other students of my reply (with identifying information redacted). I generally check my UH Email a few times a day and normally respond within 48 hours at the latest. Most questions will be addressed within 24 hours, except on Sundays and Holidays. All replies are made through the email in Laulima or posted as announcements. Check the announcements often.

Students are expected to check their email daily during the week and login at least three times/week during the Spring or Fall semesters and at least five times/week during the Summer Sessions. If you don’t respond to emails or login over a prolonged period (one week), then I will assume you intend to drop the course.

Please click on the link and read about “What makes a successful online student.” There are a number of very important concepts covered in this pamphlet including:

- Writing and computer skills are critical for success,
- You must be willing to speak up IMMEDIATELY if problems arise. I most certainly do not have ESP and won’t know if you don’t email me. You cannot let things slide and hope for the best.
- You must be self-motivated and highly disciplined. It is completely on you to keep up and stay on track.

## ATTENDANCE

Attendance is required to PHRM 203, whether you are taking the face-to-face course or taking it online. It is absolutely essential that you log on to the PHRM 203 Laulima site a minimum of three times per week to read all the lecture and assigned materials. If there are public discussions, it is essential that you read these as well. Your participation ON A WEEKLY BASIS is not only required, it is an essential aspect of the online course process. All students are expected to do the assigned work and to notify the instructor, by email, when emergencies arise.

Included in the weekly START HERE announcement will be a short series of questions regarding your progress in the course. You are expected to email your responses to the instructor within that week. If you fail to respond within the week, 10 points will be deducted from your total (for each failure to respond). This activity will serve as an attendance check.

## ASSESSMENT TASKS AND GRADING

### EXAMINATIONS

ALL TIMES, FOR QUIZZES, EXAMS, OR ANY OTHER MATERIAL, INCLUDING DUE DATES, ARE HAWAII STANDARD TIME. MAKE SURE YOU ARE AWARE OF TIME DIFFERENCES IF YOU ARE NOT IN HAWAII FOR THE TERM!

Quizzes will be worth 10-20 points each. Total value is approximately 250 points.

The midterm exam will be worth up to 400 points (usually 300-400). The final exam will be worth up to 800 points (normally 400-500).

### ASSESSMENTS AND ASSIGNMENTS

There are four assignments based on the four General Education Objectives for Windward Community College. They are evenly spaced through the semester and are worth 25 points each for a total of 100 points.

Please also note that points may be deducted for not completing the weekly attendance check (see “ATTENDANCE” section above).

The total for all activities (quizzes, assignments and exams) will be approximately 1000 points.

Online participants are required to schedule a time to take the proctored midterm and final at their home
campus Learning Resource/Testing Center. You must notify the instructor of your testing center choice. Click on this link to go to the list of UH testing centers. In order to take the exam, you will need to bring a photo ID. The exams will be available during the week of the face-to-face exam, but will be timed for the same duration as a class session. All exams are CLOSED BOOK and NO NOTES or SMART DEVICES are allowed. Watch the Course Index and START HERE announcements for instructions.

The midterm and final are multiple-choice exams similar in content and structure to the SLO review questions. These exams require the student to demonstrate knowledge and understanding of information and concepts presented in lecture, reading assignments, worksheets and other handouts, as well as information presented from internet resources.

The quizzes are an assessment of the student’s ability to recall drug names from the previous reading assignment and lecture. Quizzes are online. They are timed, generally 10 questions, and matching. Each quiz will only be available during the week matching the face-to-face lecture schedule. Details will be provided in the START HERE announcements.

There may be approximately ten (10) extra credit opportunities worth 10 points each. There is no “make up” or “late” work accepted for the extra credit assignments. You will have access to the materials needed to complete the extra credit through a link at the bottom of the “Course Index” in Laulima. Make sure to check Tasks, Tests and Surveys for due dates as NO LATE WORK IS ACCEPTED. All submissions will be through Laulima. Reminders about the extra credit assignments will appear in the START HERE announcements.

Examples of potential extra credit opportunities:
1. Reading an assigned topic and completing a questionnaire.
2. Pronunciation of drug (generic) names (face-to-face only).
3. Listening to an assigned recorded interview and completing a questionnaire.

METHOD OF GRADING

GRADING SCALE

<table>
<thead>
<tr>
<th>Total points</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>900-1000</td>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>800-899</td>
<td>80-89.9</td>
<td>B</td>
</tr>
<tr>
<td>700-799</td>
<td>70-79.9</td>
<td>C</td>
</tr>
<tr>
<td>600-699</td>
<td>60-69.9</td>
<td>D</td>
</tr>
<tr>
<td>599 or below</td>
<td>59 OR BELOW</td>
<td>F</td>
</tr>
</tbody>
</table>

Grades may be curved or calculated based on a percentage at the instructor’s discretion; however, the student may use the above grading scale as a guide to evaluate their performance throughout the class. If you miss an examination because of an illness or legitimate emergency, you must contact the instructor within 48 hours to arrange a time to take a make-up exam. The instructor may request that the student present evidence of the illness or emergency that caused the student to miss the exam. If the student misses an exam for any other reason, the student may be prohibited from taking a make-up exam, thus failing to receive any points for the missed exam. While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different. No retests will be given for any reason. Quizzes may not be retaken, taken late or made up.

Make up exams will be given at the Library Resource Center or your home campus Testing Center by arrangement. You will need a photo id in order to take the exam. Some testing centers require an appointment, it is up to you to establish the guidelines for the testing center you will be using.

ACADEMIC DISHONESTY

Students involved in academic dishonesty will receive an "F" grade for the course. Academic dishonesty includes cheating on exams and plagiarism. See pages 20-21 of the 2010-2011 course catalog for a description of the University’s policies concerning academic dishonesty.
LEARNING RESOURCES

ONLINE PARTICIPANTS ARE REQUIRED TO HAVE ACCESS TO A COMPUTER AND PRINTER.

Additional technical requirements:

1. Ability to access and use Laulima.
   a. There is a specific Laulima website for this course which contains course information, announcements, lecture outlines, assignments, links to other websites, the syllabus and other learning resources.
   i. You MUST have the ability to access and use online resource materials through the course website in Laulima including the lecture materials and recorded resources (videos and audio recordings).
   b. You automatically have access to the PHRM 203 online course website when you enroll.
   c. To access the PHRM 203 Laulima site, go to https://laulima.hawaii.edu/portal and log in using your UH username and password. Once in, click on the PHRM 203 tab.

2. Ability to navigate and use the internet.

3. Ability to navigate and use common word processing and presentation software such as Microsoft Word and PowerPoint.

4. Must have Adobe Reader installed on your computer.

5. You must have access to a hard internet connection (NOT WIRELESS) while taking the quizzes. Quizzes will NOT be reset if Laulima times you out or your wireless connection drops you.


   These texts are available:
   1. At the WCC bookstore
   2. Online, at Pearson’s website a hard cover text or eText

Assigned reading will be posted weekly in the START HERE announcement.

Lecture notes (copies of PowerPoint presentation slides) will be provided in the “Course Index” of the PHRM 203 Laulima site. They will be organized in folders containing resources for each lecture including the PowerPoint slides (as PDFs), any handouts or background materials (usually as PDFs), audio of the lecture (as WMA files), short videos covering power points (MOV files), a drug list if appropriate (a PDF), a set of SLO review questions (PDF) and a fact sheet that summarizes the information from the lecture (a PDF). The hard copy of the SLO review questions is OLDER than the version online in Tasks, Tests and Surveys (TTS). Always use the TTS version to study for exams. Links to the lecture notes, drug lists and SLO questions will be in the weekly START HERE announcement.

Online flash cards are available at StudyBlue http://www.studyblue.com/#. To use, go to http://s.tudy.it/tw23frp join and use the class code 284977 to access the cards. Either link should take you to their website. Additional online flash cards are available through FlashCardMachine (http://www.flashcardmachine.com) and the specific links are embedded in the “Course Index” pages for each lecture.

In addition, we use a number of online resources in our study of pharmaceuticals. You should become familiar, at a minimum, with these listed here:

1. Drugs.com
   a. www.drugs.com/pro

2. Food and Drug Administration (FDA)
   a. FDA
   b. For Health Professionals
   c. Drug Shortages
   d. MedWatch
   e. Recalls
f. Medication Errors

g. More Medication Errors

h. Continuing education on Medscape

3. Drug Enforcement Administration (DEA)

a. Controlled Substances Act

b. Drug disposal days

c. Drug fact sheets

4. National Institutes of Health (NIH)

a. Clinical Trials Information

b. Dailymed (a drug database)

5. Institute for Safe Medication Practices (ISMP)

a. Error Prone Abbreviations

b. Drug Name Suffixes

Course “Geography” and Procedures, Access and Navigation

To get started with the course, go to Laulima. You will need your student ID and password to log into Laulima. If you don’t know your ID number or have forgotten your password, contact Tech. Services by clicking on the “Student Help” tab on the Laulima log in page. This “Student Help” tab also has information, including videos, on using Laulima if you are new to the system.

PHRM 203 is divided into 6 “Units” (Introduction, Nervous System, Endocrinology, Cardiovascular, Microbiology & Parasites, and finally “Other”). Each unit covers several chapters in your text and from 2-11 lectures. Endocrinology is the shortest unit, while the Nervous System is the largest. In Laulima, under the “Course Index” navigation tab, you will find links with the names of each of the units. When you click on the link, a page will open and you will find links to the resources described in the previous section. A calendar is available to print in Laulima (See the Administration section at the top of the Course Index home page), but you will need to pay attention to the “Announcements” in Laulima and read all emails to learn of any changes to the schedule, including due dates, assignments, or changes to materials. Read the weekly START HERE Announcement!

The weekly START HERE Announcement will identify, in order, all the tasks you need to complete for the week. It will tell you which lectures are being covered as well as any assignments, changes in assignments, due dates and hints for upcoming exams. Read the weekly START HERE Announcement!

On the general course schedule, at the end of the syllabus, you will find the assigned textbook reading. You should keep your Nurse's Drug Guide handy as you study so that you may quickly look up relevant information. You should allot a minimum of 45 minutes per chapter. Some of the end-of-chapter questions from the book are adapted for exam questions. Make sure you take a look at those questions.

After reading, or scanning, the assigned reading, and listening to the audio of the lecture (while studying the PowerPoints), you should now be ready to answer the SLO review questions. The audiotapes are approximately 1 hour in length. The videos are all less than 15 minutes each. You do not need to listen to the audio and watch the video; you may choose one. Since there are 3-4 videos for each lecture, the time commitment is approximately the same, about 1 hour per lecture. Depending upon how much information you need to review, the SLO questions should take 30-60 minutes per lecture to complete.

Actually learning the material and memorizing the drug names, classes and important details should occupy the rest of your time. Expect to spend a minimum of 2 hours per lecture performing these tasks.

Lastly, take the quiz by going to the “Tasks, Tests and Surveys” link on the PHRM 203 Laulima site. The quizzes are 10 matching “questions” and are timed (5 minutes). If you have memorized the drug names, that is plenty of time. The quizzes are only available during the week of the matching lecture per the schedule, so if you choose to do the materials out of order, MAKE SURE YOU DON'T MISS THE RELATED QUIZ. For the purposes of this course, a week starts on Monday and ends on Sunday at midnight (Hawaii Standard Time). The total points from the quizzes will be at least ¾ of the midterm, so these easy points should not be thrown away by missing quizzes.

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor 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 I can help you find a solution. You may contact your instructor through the email link on our Laulima Home Page (just click on my name), or by posting a Chat or Forum Discussion message.

Additional Information

STUDENT RESPONSIBILITIES

The student is expected to attend lectures, participate in all course activities, and complete all quizzes, examinations and course assignments on time **(no late work accepted)**. Please be considerate to other students by turning off, or silencing, any cell phones or beepers during class if you attend a review session or the face-to-face lectures. Likewise, if you are attending the face-to-face section, show consideration by not getting up during class for any reason.

Any changes in the course schedule, such as lecture order, examination dates, deadlines, etc., will be announced ahead of time on the course website (“Announcements” in Laulima). It is the student's responsibility to be informed of these changes. It is also the student's responsibility to be informed about deadlines critical to making registration changes (e.g., last day for making an official withdrawal).

HOW TO SUCCEED IN THIS CLASS

Although you will be given lecture outlines, you will not succeed in this class without listening to lecture audio recordings and taking detailed notes. Science courses at WCC generally require **a minimum of two to three hours of independent study time for each hour in class**. Just because this course is online, you should not expect to devote less than the 6.5 - 8.5 hours per week expected of students in the face-to-face section(s). It is your responsibility to allocate the appropriate amount of time needed for study and be realistic about all personal and professional commitments that may cut into your study time.

Do not make the mistake of assuming that because the materials are online, it will somehow be easy to catch up. IT WON’T BE. Create a schedule for yourself and STICK TO IT.

As part of your studies, you will need to understand a veritable mountain of medical and anatomical terms, most of which will probably be foreign to you (e.g., cholinergic receptors, agonists and antagonists, hyperlipidemia, and post-synaptic potential). One way to learn these vocabulary words is to make flash cards to quiz yourself. Online versions of PHRM 203 drug name flashcards are available for your use, too (see the “Resources” section above). These are to learn the drug names, uses, and warnings. You will have handouts listing important abbreviations used in class that you are also expected to learn.

Answering the “SLO Review” questions located at the end of each lecture can be a helpful way to learn new vocabulary and concepts. Be warned: Merely knowing the definitions of vocabulary words or the names of drugs will be of little use if you do not know the pharmacology. This means, that in addition to vocabulary, you will be expected to have a firm understanding of the basic physiological mechanisms regulating drug pharmacokinetics and pharmacodynamics.

Instead of an “office hour,” you will have the opportunity to attend review sessions, in the hour immediately before the face-to-face class, during which drills will be conducted to help memorize the generic and trade names of drugs covered in the previous lecture(s) as well as drug class, boxed warnings, indications and adverse reactions. The answers to the SLO study questions at the end of each lecture and the practice exams that are provided for the midterm and final will be reviewed during these sessions. If you have questions, this will be the time during which we can tackle issues that are unclear in depth. There may be spontaneous drills to help with your ability to associate information from various lectures. There may also be board notes to help clarify physiological or pharmacological principles in the upcoming lecture. **It is strongly recommended that you allocate sufficient time to attend these sessions. This is a structured study hour that has proven very helpful to the students who attend. ONLINE STUDENTS ARE WELCOME TO ATTEND REVIEWS and if there is space, to stay for the face-to-face lecture, as there is not currently a similar online product for reviews and drills.**
HOW TO FAIL THIS CLASS (As in: how to not do well and get a poor grade).

1. Purchase the textbook and drug handbook, but don’t bother reading them until just before and exam. *Trust me, you won’t retain a thing. To read why, check out this link: http://msun.edu/grants/eoc/pdf/Principles_of_Memory.pdf*
2. Don’t log in frequently. *Funny thing about Laulima, it tracks your participation, so I can see how often you log on....*
3. Wait until the last day to participate in any online discussions. *It’s too late.*
4. Forget about deadlines, thinking that if you miss a quiz, an exam or an assignment (including extra credit) that either the task will go away or I’ll let you make it up. *The due dates for the online course will not change once the semester starts. Make sure you are clear on when things are due. Track due dates in Tasks, Tests and Surveys (TTS).*
5. Ignore emails from the instructor advising you to drop the class if you are failing.
6. Don’t get familiar with the syllabus, Laulima and the grade book.
7. Put off the easy things to improve your grade like the quizzes and extra credit. *Once those opportunities pass, they are gone. Emergencies can happen at any time and if you aren’t prepared, you won’t have a cushion to keep you afloat.*

DISABILITIES ACCOMMODATION STATEMENT

*If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale ‘Akoakoa 213 for more information.*
### General Schedule for 16 Week sections

<table>
<thead>
<tr>
<th>Section</th>
<th>Week</th>
<th>Lecture</th>
<th>Chapter in text</th>
</tr>
</thead>
</table>
| Introduction and Background Basics | 1. | Introduction | • Chapter 1 (Intro)  
• Chapter 2 (Drug Regulations)  
• Chapter 3 (Drug Administration)  
• Chapter 8 (Substance abuse) |
| Therapeutics | | | • UNIT 2 (see video overview)  
• Chapter 6 (ADRs)  
• Chapter 7 (Medication Errors) |
| 2. | Kinetics | | • Chapter 4  
| | Dynamics | | • Chapter 5 |
| 3. | CNS Basics & Neurotransmitters | | • Chapter 16  
• Chapter 21 |
| Peripheral Nervous System | | | • Chapters 17 & 18 for cholinergic lecture |
| | 4. | Autocoids | • Chapters 19 & 20 for adrenergic lecture |
| | | Pain and Inflammation | • Chapter 29 (Severe Pain & Migraines) for Opioids |
| | | Sedatives Hypnotics, Antidepressants, Antipsychotics | • Chapters 44 & 75 |
| | | Antidepressants | • Chapters 22-24. |
| | | Neurodegenerative Diseases | • Chapter 30 (Anesthetics) |
| | | Endocrine (Unit 10 in text) | • Chapters 25-28 |
| | 5. | | • Chapter 67, 68 & 70-72 for 1st lecture  
• Chapter 69 (Diabetes mellitus) for 2nd lecture. |
| Endocrine | | | |
| Cardiovascular | | | |
| CV1: Hypertension | | | • Chapter 31, 33-37 (scan, read as needed) |
| CV2: Angina | | | • Chapter 38 - 40 |
| CV3: Lipids | | | • Chapter 32, 41. |
| Antimicrobials | 11. | Micro1: Bacterial basics, UTIs, BPH, Acne | • Chapters 49, 52 & 53 |
| | Micro 2: Protein Synthesis Inhibitors | | • Chapter 51 |
| | Micro 3: Cell wall synthesis inhibitors | | • Chapter 50 |
| | Micro 4: Quinolones, Antiprotozoals | | • Chapters 54 &56 |
| | Micro 5: Antiparasitics, Antifungals | | • Chapters 55 & 56 |
| Other | 12. | Respiratory Tract Drugs | • Chapters 47 & 48 |
| | Antivirals | | • Chapters 57 & 58 |
| | Gastrointestinal Drugs | | • Chapters 61 - 63 |
| | Cancer | | • Chapters 59 & 60 |
| | Herbs, Supplements & Vitamins | | • Chapters 15 & 64 |

### SUMMER SCHEDULE, NEXT PAGE…

<table>
<thead>
<tr>
<th>Section</th>
<th>Week</th>
<th>Lecture</th>
<th>Chapter in text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>13.</td>
<td>Respiratory Tract Drugs</td>
<td>• Chapters 47 &amp; 48</td>
</tr>
<tr>
<td></td>
<td>Antivirals</td>
<td></td>
<td>• Chapters 57 &amp; 58</td>
</tr>
<tr>
<td></td>
<td>Gastrointestinal Drugs</td>
<td></td>
<td>• Chapters 61 - 63</td>
</tr>
<tr>
<td></td>
<td>Cancer</td>
<td></td>
<td>• Chapters 59 &amp; 60</td>
</tr>
<tr>
<td></td>
<td>Herbs, Supplements &amp; Vitamins</td>
<td></td>
<td>• Chapters 15 &amp; 64</td>
</tr>
</tbody>
</table>
| Introduction and Background Basics | 1. Introduction | • Chapter 1 (Intro)  
• Chapter 2 (Drug Regulations)  
• Chapter 3 (Drug Administration)  
• Chapter 8 (Substance abuse) |
| --- | --- | --- |
| Therapeutics | • UNIT 2 (see video overview)  
• Chapter 6 (ADRs)  
• Chapter 7 (Medication Errors) |
| Kinetics | • Chapter 4 |
| Dynamics | • Chapter 5 |
| 2. Nervous System | CNS Basics & Neurotransmitters | • Chapter 16  
• Chapter 21 |
| Peripheral Nervous System | • Chapters 17 & 18 for cholinergic lecture  
• Chapters 19 & 20 for adrenergic lecture |
| Autocoids | • Chapters 47 & 48 |
| Pain and Inflammation | • Chapter 29 (Severe Pain & Migraines) for Opioids  
• Chapters 44 & 75 |
| Sedatives Hypnotics, Antidepressants, Antipsychotics | • Chapters 22-24. |
| Anesthetics | • Chapter 30 (Anesthetics) |
| Neurodegenerative Diseases | • Chapters 25-28 |
| 3. Endocrine | Endocrine (Unit 10 in text) | • Chapter 67, 68 & 70-72 for 1st lecture  
• Chapter 69 (Diabetes mellitus) for 2nd lecture. |
| CV1: Hypertension | • Chapter 31, 33-37 (scan, read as needed) |
| CV2: Angina | • Chapter 38 - 40 |
| CV3: Lipids | • Chapter 32, 41. |
| 4. Cardiovascular | Micro1: Bacterial basics, UTIs, BPH, Acne | • Chapters 49, 52 & 53 |
| Micro 2: Protein Synthesis Inhibitors | • Chapter 51 |
| 5. Antimicrobials | Micro 3: Cell wall synthesis inhibitors | • Chapter 50 |
| Micro 4: Quinolones, Antiprotozoals | • Chapters 54 &56 |
| Micro 5: Antiparasitics, Antifungals | • Chapters 55 & 56 |
| 6. Other | Respiratory Tract Drugs | • Chapters 47 & 48 |
| Antivirals | • Chapters 57 & 58 |
| Gastrointestinal Drugs | • Chapters 61 - 63 |
| Cancer | • Chapters 59 & 60 |
| Herbs, Supplements & Vitamins | • Chapters 15 & 64 |

**COMPREHENSIVE FINAL LAST DAY OF CLASSES**

Due dates for extra credit assignments and other assorted schedule information and deadlines pertinent to class will be posted in announcements in Laulima. All schedules for this class are subject to change. Make sure to frequently check your UH email, or the Laulima website for PHRM 203, for announcements.

Updated on 10 July, 2013