



Patrick J. Davis, Ph.D.  
COLLEGE OF PHARMACY  
THE UNIVERSITY OF TEXAS AT AUSTIN

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## Fall-2009

# Basic Principles of Medicinal Chemistry (PHR 143M) -and- Basic Principles of Medicinal Chemistry Lab (PHR 143P)

**Schedule:** Lectures, Friday 1-2 p.m. in PHR 3.106  
Pre-Lab, Friday 2-3 p.m. in PHR 3.106

Laboratory MWF 3-6 p.m. in PHR 2.116 –or-  
Laboratory TTh 2-5 p.m. in PHR 2.116

**Faculty:** Dr. Patrick Davis, Ph.D. (Med Chem), PHR 143M Course Coordinator  
Dr. Sean Kerwin, Ph.D. (Med Chem), PHR 143P Course Coordinator  
Dr. Jonathan Zhang Ph.D. (Med Chem), Visualization Labs

**Teaching Assts:**

|                    |            |  |
|--------------------|------------|--|
| Gabby Thibodeaux   | BME 6.324  | <a href="mailto:gabby_moreno@mail.utexas.edu">gabby_moreno@mail.utexas.edu</a> |
| Brad Gilbreath     | BME 6.102  | <a href="mailto:gilbreath@mail.utexas.edu">gilbreath@mail.utexas.edu</a>       |
| Jamison Huddleston | BME 6.308  | <a href="mailto:jphudd@hotmail.com">jphudd@hotmail.com</a>                     |
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| Meilan Wu          | PHR 4.216B | <a href="mailto:coralwu20@hotmail.com">coralwu20@hotmail.com</a>               |

**Academic Assistant:** Mike Scott                      PHR 4.216B   [mikescott36@mail.utexas.edu](mailto:mikescott36@mail.utexas.edu)

**Course Texts:**

1. Foye's *Principles of Medicinal Chemistry*, 6<sup>th</sup> Ed., 2008 [required].
2. Lemke, *Review of Organic Functional Groups: Introduction to Medicinal Organic Chemistry*, 4<sup>th</sup> Edition, Lea & Febiger, 2003 [required].
3. TurningPoint Classroom Response 'Clicker' [required]

Note: Exam questions may come from assigned text readings.

**Web Resources:** 1. The Blackboard ® **web site** for this course is located at:

<http://courses.utexas.edu/>

On login (with your UTEID) you will see a list of Blackboard websites for your current courses. Click on *F09 Basic Medicinal Chemistry Principles* to access the site. You are strongly encouraged to visit this site for additional resources

associated with the courses (electronic quizzes, powerpoint presentation, previous exams, contacting faculty by Email, electronic versions of suggested and **required** readings). Messages sent to you via the Blackboard Website (Email and Announcements) are **official** mechanisms for communication in this course; be sure you understand the College Email policies.

2. The **Discussion Board** for this course is also on the Blackboard website. The Discussion Board will be used for posting questions, exchanging class information, and making class announcements.
3. Dr. Davis holds electronic office hours on Blackboard® (Chat module) during his section of the course on Sunday nights at 9:00 p.m.
4. You may also contact faculty members directly via **phone** or **Email**.

Dr. Patrick Davis (475-9751; 892-3660) [davispj@mail.utexas.edu](mailto:davispj@mail.utexas.edu)

Dr. Sean Kerwin (471-5074) [skerwin@mail.utexas.edu](mailto:skerwin@mail.utexas.edu)

Dr. Jonathon Zhang, Ph.D. (471-4551) [zhang@mail.utexas.edu](mailto:zhang@mail.utexas.edu)

## Basic Medicinal Chemistry (PHR 143P & 143M) Course Policies

### 1. Examinations:

There will be two 2-hr summary examinations throughout the semester, plus a comprehensive final administered during the Final Exam period. Summary Exams will cover both the lecture and the laboratory material, since the material is coordinated for reinforcement. Exams will be given according to the following schedule:

| Exam Date & Time     | Location | Coverage  | Faculty              | Points  |
|----------------------|----------|---|----------------------|---------|
| Wed, Oct 14, 7-9 pm* |          | Lec: Princ Med Chem                                       | Kerwin [5 lectures]  | 100 pts |
| Wed, Oct 14, 7-9 pm* |          | Labs: 1-4   | Kerwin               | 80 pts  |
|                      |          |   |                      |         |
| Tues, Dec 1, 7-9 pm* |          | Lec: Metabolism   | Davis [8 lectures]   | 160 pts |
| Tues, Dec 1, 7-9 pm* |          | Lab: 5-9  | Kerwin, Zhang, Davis | 100 pts |
|                      |          |   |                      |         |
| Final Exam           | TBA      | Lec: Med Chem Prin<br>Lec: Metabolism<br>No Labs on Final | Kerwin<br>Davis      | 100 pts |

(\*Dates/Times tentative pending input from your Pharmacy Council Representatives)

Course grades are thus based on the following:

**143M:** 360 pts (based solely on examinations)

**143P:** 270 pts (based on 20 exam pts, 5 pre-lab quiz points, and 5 laboratory report points for each of the nine laboratory exercises) [Note: Total possible points may be lower if a lab is canceled due to school closure, or if certain quizzes are not given].

The format for the exam is entirely the prerogative of the faculty. *Students must arrive on time for examinations.* All instructions and corrections will be made at the beginning of the examination period and will not be repeated. Semester exams will begin promptly at the designated hour and will be picked up after exactly 2 hrs. The final examination will last three hours. Students arriving after any students have completed the exam and left the room may not be allowed to sit for the exam and may receive a score of zero.

*No allowances will be made for an exam being missed, other than documented illness or emergency.*

The student must contact the course coordinator for confirmation *prior to the exam.* If permission is granted to delay the exam, it is the student responsibility to complete the College Form titled "Student Request for Alternate Exam Time" for consideration and *final approval* by the Faculty member. In this event, the nature of the make-up will be at the discretion of the faculty (oral, written, increased weighting of the relevant section on the final, etc.). An unexcused absence from an exam may result in a grade of "zero" for that exam.

The grading of objective questions will be based upon the scantron sheets turned in, and *not* on answers written on the exam papers. After the exams have been graded and an item analysis performed (Measurement & Evaluation Center), acceptable answers may be broadened at the discretion of the faculty before exam grading is finalized.

## **2. Return of Exams; Posting Class Scores & Keys:**

All summary examinations will be returned to the students within a reasonable time after taking the exam. Following the grading of each exam, scores and the exam key will be posted on a bulletin board outside PHR 4.202. An announcement will be made via the listserv that the key and scores have been posted and that exams are available for return.

## **3. Post-Exam Remarks and Reconsideration Requests:**

If there is a disagreement over the answer to a specific question, the student should present his/her exam plus a written explanation (with appropriate documentation) to the instructor within 72 hours of the listserv announcement of the posting of exam results & key as described above. Documentation may include statements from textbooks, handouts, packets, or current scientific reprints; your lecture notes are *not* authoritative documentation. The explanation must be clear, rational, and concise. (This policy does not apply to addition or other grading errors). Faculty are instructed to wait until after the deadline has passed before responding to specific reconsideration requests, so be patient!

**4. Final Exam Re-Examination Policy:** The re-examination policy for this course will follow the General Information Catalog (GIC) policy for the University, which reads as follows: "Only a student who has a grade average of at least a C on all class work and lab work submitted before the final exam may request a temporary delay of the final course grade because he or she failed the final examination, which is the examination given during the final exam period as printed in the official examination schedule. If the petition is denied by the instructor (i.e., course coordinator), the student's final course grade will remain as originally determined. If the petition is granted by the instructor (i.e., course coordinator), the grade on the reexamination will be **substituted** for the grade on the original exam in determining the student's final course grade, provided the student earns at least a C on the reexamination. **If the grade on the reexamination is less than a C, a final course grade of F must be recorded.**"

## **5. Course Grading:**

|          |               |             |              |
|----------|---------------|-------------|--------------|
| A Range: | A+ = 100%-97% | A = 96%-93% | A- = 92%-90% |
| B Range: | B+ = 89%-87%  | B = 86%-83% | B- = 82%-80% |
| C Range: | C+ = 79%-77%  | C = 76%-73% | C- = 72%-70% |
| D Range: | D+ = 69%-67%  | D = 66%-65% |              |
| F =      | Below 65%     |             |              |

This scale may be curved more leniently in the final analysis of grades at the discretion of the instructors.

## **6. 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 client 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 write-ups (unless specifically instructed otherwise). Any student caught cheating will be given a "zero" on the assignment (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 about what constitutes scholastic dishonesty. Students are also expected to be familiar with and abide by the College Honor Code, and will be expected to sign the Honors Statement at the end of each examination.

## **7. 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. In the absence of such *prearrangement*, the student will be expected to take the exam with the rest of the class at the regularly scheduled exam time. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

**Schedule of Basic Principles Medicinal Chemistry (PHR 143M)  
-and-  
Basic Principles of Medicinal Chemistry Lab (PHR 143P).**

Note: Revised 7/5/09

| <b>Week</b>   | <b>Inclusive Dates<br/>Lab Scheduled</b>         | <b>Friday Lecture Topic(s)<br/>Friday Pre-lab Topic(s)<br/>Friday Quiz Topic(s)</b>                                |
|---|--|--|
| 1   | Aug 26-Aug 28<br>No Lab (partial week)           | <i>Lec:</i> Kerwin (Principles of Med Chem)<br><i>Pre-Lab:</i> Kerwin (Arrow Pushing 1)<br>None                    |
| 2   | Aug 31-Sept 4<br>Lab 1: Arrow Pushing 1          | <i>Lec:</i> Kerwin (Principles of Med Chem)<br><i>Pre-Lab:</i> Kerwin (Principles of Med Chem)<br>None             |
| 3   | Sept 7 -Sept 11<br>No Lab (labor day)            | <i>Lec:</i> Kerwin (Principles of Med Chem)<br><i>Pre-Lab:</i> Kerwin (Arrow Pushing 2 Lab)<br>None                |
| 4   | Sept 14-Sept 18<br>Lab 2: Arrow Pushing 2        | <i>Lec:</i> Kerwin (Principles of Med Chem)<br><i>Pre-Lab:</i> Kerwin (HPLC Lab)<br>Arrow Pushing 1 Quiz           |
| 5   | Sept 21-Sept 25<br>Lab 3: HPLC                   | <i>Lec:</i> Kerwin (Principles of Med Chem)<br><i>Pre-Lab:</i> Kerwin (Small Molecule Lab)<br>Arrow Pushing 2 Quiz |
| 6   | Sept 28-Oct 2<br>Lab 4: Small Molecules          | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Zhang (Macromolecule Lab #1)<br>HPLC Quiz                   |
| 7   | Oct 5-Oct 9<br>Lab 5: Macromolecular<br>Lab #1   | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Zhang (Macromolecule Lab #2)<br>Small Molecule Quiz         |
| Exam 1 on Oct 14 covering Weeks 1-5 (Kerwin) and Labs 1-4 |  |  |
| 8   | Oct 12-Oct 16<br>Lab 6: Macromolecular<br>Lab #2 | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Open<br>Macromolecule Quiz                                  |
| 9   | Oct 19-Oct 23<br>Open for 366P                   | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Zhang (Macromolecule Lab #3)<br>TBA 2 Quiz                  |
| 10  | Oct 26-Oct 30<br>Lab 7: Macromolecular<br>Lab #3 | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Zhang (Macromolecule Lab #4)<br>None                        |

|  |   |  |
|--|---|--|
| 11   | Nov 2-Nov 6<br>Lab 8: Macromolecular<br>Lab #4        | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Davis (Metab Lab #1)<br>TBA 3 Quiz        |
| 12   | Nov 9-Nov 13<br>Lab 9 Metab Lab #1                    | <i>Lec:</i> Davis (Drug Metabolism)<br><i>Pre-Lab:</i> Davis (Liver Game) (Lab #2)<br>TBA 4 Quiz |
| 13   | Nov 16-Nov 20<br>Lab 10 Concept Map<br>Metabolism Lab | <i>Lec:</i> Davis (Analysis)<br><i>Pre-Lab:</i> Davis (only if needed)<br>Liver Game Quiz        |
| 14   | Nov 23-Nov 27<br>No Lab: Thanksgiving                 | Thanksgiving Holiday   |
| Exam 2 on Dec 1 covering Weeks 6-13 (Davis) and labs 5-9 |   |  |
| 15   | Dec 1-5<br>No Lab (last week)                         | <i>Lec:</i> Review (Davis & Kerwin)  |
|  |   |  |