Course Purpose:

Understanding the importance of drug concentration/time relationships for optimal drug therapy.

Course Faculty and Office Hours

Course Coordinator: Hartmut Derendorf, PhD
Email: Hartmut@cop.ufl.edu
Office: P3-27; MSB
Phone: 273-7856

Co-Coordinator: [Include only if there is a co-coordinator]
Guohua An, PhD, MD
Email: guohuaan@cop.ufl.edu
Office: Lake Nona
Phone: 407-313-7010

Office Hours
Friday, 11:30 to 12:30
Also, please call or e-mail anytime

Place and Time of Class Sessions

Fridays 4th period 10:40-11:30am

How This Course Relates to the Learning Outcomes You Will Achieve in the Pharm.D. Program:
This course prepares the Pharm.D. student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:
1. Provide Patient-centered Care - Specifically: Design, implement, monitor, evaluate, and adjust pharmacy care plans that are patient-specific; address health literacy, cultural diversity, and behavioral psychosocial issues; are evidence-based and accomplished in collaboration with other health professionals. (SLO 1.1 and 1.2)

2. Solve complex practice problems (both patient-specific and general practice) using an evidence-based approach, other aspects of good clinical science, and informatics. (SLO 8.1)

Course Objectives
Upon completion of this course, the student will:

1. Understand the theoretical background of the pharmacokinetic behavior of drugs.
2. Understand the influence of dosage forms, dosing regiments and dose levels and to understand the relationship between drug concentration, effect, and side effects.
3. Design optimized dosing regiments for patient care utilizing drug monitoring techniques and computer technology.
4. Apply the above principles for pharmacokinetic decision making and improvement of patient care.

Pre-Requisite Knowledge and Skills

PHA 5127 Dose Optimization I

Course Structure & Outline

Course Structure.

a) Learning activities are video lectures and students are required to come to campus for exams,

b) Multiple self-directed learning activities are required (eg, videos, readings, web-based learning) and at selected intervals students come to class for a face-to-face learning session (eg, case discussion, problem set discussion); students must come to class for exams.

c) All class sessions are face-to-face and the student must complete some self-directed pre-requisite learning activities, or

d) learning activities in the actual practice setting.

Course Outline/Activities.

Multiple self-directed learning activities are required (eg, videos, readings, web-based learning) and at selected intervals students come to class for a face-to-face learning session (eg, case discussion, problem set discussion); students must come to class for exams.
Textbooks

Required Reading:  Michael E. Winter’s
Basic Clinical Pharmacokinetics 5th Ed.
Applied Therapeutics, Inc., Vancouver, WA

Recommended Reading:


Applied Biopharmaceutics & Pharmacokinetics
Leon Shargel/Andrew Yu
5th ed. Appleton & Lange

Applied Clinical Pharmacokinetics
Larry A. Bauer
McGraw Hill

Pharmacokinetics Principles and Applications
Mehdi Boroujerdi
McGraw Hill

Active Learning Requirements

All homework must be original work by the individual student. Students must be present in the lecture room on the day the Case Study is presented. They may be asked to present parts of the case study. If the student is selected for presentation and is not present, points will be deducted from the overall grade.
### Student Evaluation & Grading

#### Evaluation Methods

<table>
<thead>
<tr>
<th></th>
<th>Maximum Points</th>
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<tbody>
<tr>
<td>1st Exam</td>
<td>100</td>
<td>40</td>
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<tr>
<td>2nd Exam</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>Homework/Case Studies</td>
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<td>20</td>
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<td><strong>TOTAL</strong></td>
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#### Grading Scale

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<td>A</td>
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<tr>
<td>A-</td>
<td>90-94.99</td>
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<tr>
<td>B+</td>
<td>87-89.99</td>
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<tr>
<td>B</td>
<td>83-86.99</td>
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<tr>
<td>B-</td>
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<tr>
<td>E</td>
<td>0-59.99</td>
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Class Attendance Policy

Class will start promptly. You are expected to be seated and ready so that the class can start promptly. It is expected that you will act in a professional and courteous manner. If you are found to be disruptive in class, the instructor may ask that you leave the classroom. The instructor reserves the right to take attendance at any of the lecture sessions.

It is the formal policy of this class that in order to fully and properly fulfill the requirements of this course some use of and proficiency in the use of computers, including access to and use of the Internet (email and World Wide Web), will be required.

Quiz/Exam Policy

May consist of multiple choice, essay question and calculations. Questions concerning grading need to be asked not later than one week after grades were posted. The first exams will be returned. Final exams can be looked at, but will be kept.

Make-up Quiz/Exam Policy

Make-up exams will only be given, if important medical reasons exist (doctors excuse).

Policy on Old Quizzes and Assignments

Old quizzes and assignments are available online

http://pharmacy.ufl.edu/pc/education/phd/pha5128-bpdoi/

Assignment Deadlines

No credit for late submission of homework
General College of Pharmacy Course Policies
The College of Pharmacy has a website that lists course policies that are common to all courses. This website covers the following:

1. University Grading Policies
2. Academic Integrity Policy
3. How to request learning accommodations
4. Faculty and course evaluations
5. Student expectations in class
6. Discussion board policy
7. Email communications
8. Religious holidays
9. Counseling & student health
10. How to access services for student success

Please see the following URL for this information:

Complaints

Should you have any complaints with your experience in this course please contact your course coordinator. If unresolved, contact the COP Senior Associate Dean-Professional Affairs. For unresolved issues, see:

http://www.distancelearning.ufl.edu/student-complaints to submit a complaint.

Other Course Information
[Use Appendices to include other course information such as:
1. Directions of assignments
2. Rubrics that will be used to evaluate performance
3. Additional course policies ]
Appendix A: Directions for Contacting Faculty & Course Faculty List

Directions for Contacting Course Faculty

<table>
<thead>
<tr>
<th>Teaching Assistants:</th>
<th>Gainesville</th>
<th></th>
<th>Toaib Heinrichs</th>
<th>TBD</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Sherwin Sy</td>
<td><a href="mailto:sherwin.sy@ufl.edu">sherwin.sy@ufl.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Snehal Samant</td>
<td><a href="mailto:ssamant@ufl.edu">ssamant@ufl.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joy Shao</td>
<td><a href="mailto:joyshao@ufl.edu">joyshao@ufl.edu</a></td>
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[**If you have a team-taught course, list the faculty here]

Course Coordinators

Guohua An, MD, PhD  
guohuaan@cop.ufl.edu  
407-313-7010

Instructors

| Jacksonville         | Donald Johnson, PharmD  
<table>
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<tbody>
<tr>
<td></td>
<td>904-945-6870</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Donald.johnson@jax.ufl.edu">Donald.johnson@jax.ufl.edu</a></td>
</tr>
<tr>
<td>Orlando</td>
<td>Lisa Vandervoort, PharmD</td>
</tr>
<tr>
<td></td>
<td>407-702-8322</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:lvandervoort@cop.ufl.edu">lvandervoort@cop.ufl.edu</a></td>
</tr>
<tr>
<td>St. Petersburg</td>
<td>Brian Steele, PharmD</td>
</tr>
<tr>
<td></td>
<td>(727) 744-6464 (cell)</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:bsteelejr@gmail.com">bsteelejr@gmail.com</a></td>
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# Appendix B. Schedule of Course Activities/Topics

Updated December 13, 2013

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<tr>
<th>Mon</th>
<th>Topic</th>
<th>Tues</th>
<th>Topic</th>
<th>Wed</th>
<th>Topic</th>
<th>Friday 10:40-11:30 G101</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Jan. 06</td>
<td></td>
<td>Jan. 07</td>
<td></td>
<td>Jan. 08</td>
<td>Introduction – Basic Principles Room G101</td>
<td>Jan. 10</td>
<td>Basic Principles (T)</td>
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<tr>
<td>Jan. 13</td>
<td>Pharmacokinetic Models and Equations (T)</td>
<td>Jan. 14</td>
<td>Bioavailability (T) Dr. An</td>
<td>Jan. 15</td>
<td>Renal Disease (T) Dr. An</td>
<td>Jan. 17</td>
<td>Case Study 1 (Homework #1 Due Jan. 24)</td>
</tr>
<tr>
<td>Jan. 20</td>
<td>Holiday MLK</td>
<td>Jan. 21</td>
<td>Body Weight (T) Dr. An</td>
<td>Jan. 22</td>
<td>Aminoglycosides (T)</td>
<td>Jan. 24</td>
<td>Case Study 2 (Homework #2 due Jan. 31)</td>
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<td>Jan. 27</td>
<td>Aminoglycosides (T)</td>
<td>Jan. 28</td>
<td>Vancomycin (T)</td>
<td>Jan. 29</td>
<td>Geriatrics (T) Dr. An</td>
<td>Jan. 31</td>
<td>Case Study 3 (Homework # 3 Due Feb. 7)</td>
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<td>Feb. 3</td>
<td>Pediatrics (T) Dr. An</td>
<td>Feb. 4</td>
<td>Phenobarbital Carbamazepine Valproic Acid (T)</td>
<td>Feb. 5</td>
<td>4:05 Review: GNV G101 Orl: St.Pete: JAX:</td>
<td>Feb. 7</td>
<td>Case Study 4 (Homework # 4 Due Feb. 21)</td>
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<td>Feb. 10</td>
<td>Exam 1 7-9pm 1404 confirmed</td>
<td>Feb. 11</td>
<td>Digoxin (T)</td>
<td>Feb. 12</td>
<td>Methotrexate (T)</td>
<td>Feb. 14</td>
<td>Case Study 5 (Homework # 5 due Feb. 21)</td>
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<td>Feb. 17</td>
<td>Theophylline (T)</td>
<td>Feb. 18</td>
<td>Cyclosporine (T)</td>
<td>Feb. 19</td>
<td>Procainamide Lidocaine(T)</td>
<td>Feb. 21</td>
<td>Phenytoin (T)</td>
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(T) Tape