

## **Pharmaceutics 510 "Drug Interactions" Spring Quarter, 2019**

**Location:** HSB T639

**Time:** Tues & Thurs 10:00-11:20 am

### **Course Description:**

This course presents 1) common pharmacokinetic mechanisms underlying clinically important interactions between drugs, and 2) patient- and drug-related factors that predispose patients to adverse drug interactions. There will be case-based discussion on approaches to clinical evaluation and management of the risk of drug-drug interactions

### **Learning Objectives:**

The learning objectives for this course are 1) to acquire a scientific understanding of the physiologic and biochemical basis of drug-drug interactions, and 2) to apply the knowledge gained to the prevention and intervention of adverse drug interactions. Recognition of the potential for and intervening with the adverse consequences of drug-drug and food-drug interactions are major responsibilities of practicing pharmacists.

### **Evaluation and Grading:**

Course grade will be calculated based on scores from the three sectional exams with the following percent weighting and anchoring for the curve at 4.0 = highest final % score in class and 1.7 = 60%.

- 1) Exam #1 (April 2 – April 18 topics): 35%
- 2) Exam #2 (April 23 – May 9 topics): 30%
- 3) Exam #3 (May 14 – June 4 topics): 35%

The passing grade for this course is 1.7. There will not be a comprehensive final exam.

Please contact Dr. Thummel soon as possible if you need accommodations for the exams because of unavoidable scheduling conflicts or disability issues.

### **Background Reading:**

There is no textbook. Please check course website for two background articles by 1) J. Horn & P. Hansten, "Pharmacokinetic Drug Interaction Mechanisms and Clinical Characteristics," Facts & Comparisons, Oct 2010; and 2) J. Fish, "Drug-Drug Interactions: A Guide to Identifying and Managing Important Drug Interactions," Journal of the Pharmacy Society of Wisconsin, July/Aug 2007, p. 16-25.

### **Course Website:**

<https://canvas.uw.edu/courses/1133254>

**Instructors:** Ken Thummel (Course Master, 5430819, [thummel@uw.edu](mailto:thummel@uw.edu))  
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## SCHEDULE

	<u>Date</u>		<u>Topic</u>	<u>Instructor(s)</u>
April	2	Tu	Introduction to the course/DDI Epidemiology	Thummel/Shen
	4	Th	Drug interaction evaluation, variation, prevention	Shen
	9	Tu	Interactions involving gastrointestinal absorption I	Shen
	11	Th	Interactions involving gastrointestinal absorption II	Shen
	16	Tu	Interactions involving P-glycoprotein-mediated transport	Shen
	18	Th	Interactions involving other transporters	Shen
	23	Tu	Principles of enzyme-based interactions	Thummel
	25	Th	<b>Exam #1 (April 2 – April 18 topics)</b>	–
	30	Tu	CYP3A-based interactions I	Thummel
May	2	Th	CYP3A-based interactions II	Thummel
	7	Tu	CYP2D6-based interactions	Thummel
	9	Th	CYP2C and CYP1A2-based interactions	Thummel
	14	Tu	Interindividual variability in CYP-based DDIs	Thummel
	16	Th	<b>Exam #2 (April 23 – May 9 topics)</b>	–
	21	Tu	Interactions involving glucuronidation	Thummel
	23	Th	Interactions involving herbal supplements	Thummel
	28	Tu	Pharmacodynamic interactions – HTN, MAOI, SSRI, QT	Ragueneau
	30	Th	Computer-aided CDS in managing drug interactions	Ragueneau
June	4	Tu	Integration and problem solving through case studies	Thummel/Ragueneau
	6	Th	<b>Exam #3 (May 14 – June 4 topics)†</b>	–

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† No exam in the final exam week