

**SYLLABUS**  
**Pharmacology (PHAR 6205)**

**COURSE DESCRIPTION:**

Basic principles of pharmacology, including receptor mechanisms, drug distribution and metabolism, and pharmacokinetics. Lectures, laboratories, and tutorials on the interactions of drugs and biological systems as a basis for rational disease therapy.

**LEARNING OBJECTIVES:**

By the end of this course, each student should be able to:

1. Identify the fundamental principles of pharmacokinetics and pharmacodynamics.
2. Apply the pharmacodynamic and pharmacokinetic principles that describe drug actions in humans.
3. Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.
4. Identify the role of molecular genetics and genomic principles in pharmacotherapeutics and drug development.

**CREDIT HOURS:** 5

**COURSE DIRECTOR:** Dr. Travis O'Brien

**PREREQUISITE:** BMSC 8210, 8212 or permission of instructor.

**LECTURE CONTACT TIME/HOURS:** one two hour-long session per week plus lecture sessions on individual drugs.

**METHOD OF ASSESSMENT:** The final grade will be calculated from Examination (80%) and Class Presentation (20%).

**EXAMINATIONS:**

During the course we will give 4 Exams. The individual exams will cover all the material covered during the specified section. There will be four questions per lecture hour on each exam. PLEASE NOTE: EXAMS WILL COVER THE PHARMACOLOGY OF THE DRUGS PRESENTED IN CLASS. Emphasis will be place on a given drug/drug class's:

- a) pharmacological target
- b) therapeutic effect
- c) potentially serious adverse/side effects and
- d) contraindications, drug/gene interactions.

A student who misses an exam and provides an excuse acceptable to the course coordinator (Dr. O'Brien) will be allowed to take a make-up exam at a time designated by the course coordinator. Missing an exam without an accepted excuse will result in a grade of zero for that exam.

**REQUIRED TEXTS:** None

There are many textbooks of pharmacology available. We recommend "Basic and Clinical Pharmacology" by Katzung ("Basic and Clinical Pharmacology" by Katzung (McGraw Hill Lange, 12th edition, 2012) as a suitable text for the course (See lecture schedule for chapters covered by each session). The major content of the course will be presented in lecture and/or handouts. Each handout will provide a list of learning objectives as well as a drug list of the specific pharmacologic agents that students are expected to know. The textbook should serve as a source for clarification and elaboration and for future use as a source for more detail on specific drugs not covered in the course. The book is available on the GWUMC library website (<http://libguides.gwumc.edu/content.php?pid=60105&sid=441899>). In addition, it is your responsibility to review the relevant physiological and biochemical principles prior to each lecture.

**CLASS POLICIES**

Attendance policy: not mandatory, except where indicated

Late work: accepted with permission, penalty may be incurred if unduly late as determined by instructor  
Religious Holidays: will be accommodated if requested [NOTE: for university policies on teaching, see <http://www.gwu.edu/~academic/Teaching/main.htm>]

Please note that you will need to provide your GWID number G\*\*-\*\*\*-\*\*\* for each exam. Following each exam, Dr. O'Brien will notify each student whose examination performance indicates a need for concern over the student's grasp of the material. Students who are having difficulty with a certain subject matter are encouraged to meet with the course coordinator. Please contact the course coordinator to make an appointment to meet at a mutually agreeable time.

**GRADING:**

Grades are determined by the departmental faculty based on your entire performance in the course. Based on previous classes, a grade of "A" was generally awarded to students with a final average approximately 1 standard deviation above the class average. Grades that were at or below 1.5 standard deviations below the mean generally received a grade of "C". Finally, a course score below 2 standard deviations below the mean has generally been the basis for a grade of F.

**BLACKBOARD:**

Pharmacology 6205 materials are also available through the Blackboard portal. Lecture notes and slides for each week's material will be posted as soon as possible. To log onto Blackboard, you must have registered for the course and have a gwu email address. In addition, all lectures, except those that occur on Wednesdays from 2-4 PM will be recorded for online viewing by Panopto.

**ACADEMIC INTEGRITY**

I personally support the GW Code of Academic Integrity. It states: "Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information." For the remainder of the code, see: <http://www.gwu.edu/~ntegrity/code.html>

## **SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM**

### *DISABILITY SUPPORT SERVICES (DSS)*

Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: <http://gwired.gwu.edu/dss/>

### *UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300*

The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:

- crisis and emergency mental health consultations
  - confidential assessment, counseling services (individual and small group), and referrals
- <http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices>

## **SECURITY**

In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.

<b><u>Faculty</u></b>	<b><u>Room</u></b>
Departmental Office	640
Dr. Travis O'Brien (Course Director)	660A
Dr. Susan Ceryak	
Dr. Vincent A. Chiappinelli	640
Dr. Katherine A. Kennedy	662
Dr. Norman Lee	603
Dr. David Mendelowitz	654
Dr. Linda L. Werling	619
Dr. Matthew Colonnese	639A

EMAIL: Email is a great way to reach us. We do have a few rules for email:

1. We will only respond to email from your gmail.gwu.edu account AND the subject line contains "PHAR6205".
2. To speed things up if you wish to set up an appointment, include in your request several dates and times when you are available. Most faculty will be able to find a mutually agreeable time for meeting with you.
3. Dr. O'Brien will hold office hours on M, W & F 12-1 pm. Please notify him ahead of time if you plan on meeting. If you require a different time to meet, please contact Dr. O'Brien to arrange.

**PHARMACOLOGY 6205 FALL 2015 SCHEDULE**

<b>Date</b>	<b>Topic</b>	<b>Lecturer</b>	<b>Time</b>	<b>Katzung Chapters</b>
<b>2-Sep</b>	Physiologic Disposition	Dr. Kennedy	2-4 PM	2
<b>9-Sep</b>	Pharmacokinetics	Dr. Kennedy	2-4 PM	2
<b>10-Sep</b>	Drug Receptors	Dr. Colonnese	2-4 PM	2
<b>15-Sep</b>	Drugs for Migraine	Dr. Werling	11-12 PM	16
<b>16-Sep</b>	Antiepileptics	Dr. Werling	11-12 PM	24
<b>18-Sep</b>	Anti-Anxiety Agents	Dr. Ceryak	1-2 PM	22
	Antidepressants	Dr. Ceryak	2-3 PM	30
<b>23-Sep</b>	<b>Pharmacology Class Session: Exam 1</b>		<b>2-4 PM</b>	
<b>30-Sep</b>	Pharmacology Class Session		2-4 PM	
<b>2-Oct</b>	Pulmonary Review	Dr. Yarbrough	1-3 PM	
<b>6-Oct</b>	Antihistamines	Dr. Ceryak	9-10 AM	16
<b>7-Oct</b>	Asthma and COPD Drugs	Dr. Ceryak	11-12 PM	20
	Pharmacology Class Session		2-4 PM	
<b>12-Oct</b>	Cardiovascular and Autonomic Nervous System Review	Dr. Mendelowitz	1-3 PM	
	Opioids	Dr. Lee	3-5 PM	31
<b>14-Oct</b>	Alcohol	Dr. Lee	9-10 AM	

	Cholinergics and Neuromuscular Blockers	Dr. Chiappinelli	3-5 PM	7,8,27
<b>15-Oct</b>	Drugs of Abuse	Dr. Lee	10-12 PM	32
<b>19-Oct</b>	Adrenergics & Antiadrenergic Drugs	Dr. Werling	1-4 PM	6,9,10
<b>21-Oct</b>	<b>Pharmacology Class Session: Exam 2</b>		<b>2-4 PM</b>	
<b>26-Oct</b>	Antihypertensives and Antianginals	Dr. Mendolwitz	1-3 PM	11
<b>28-Oct</b>	Lipid Lowering Drugs	Dr. O'Brien	9-10 AM	35
	Pharmacology Class Session		2-4 PM	
<b>29-Oct</b>	Antipsychotics/Anti-Parkinson's Drugs	Dr. Werling	9-10 AM	29
<b>30-Oct</b>	Drugs for Congestive Heart Failure	Dr. Chiappinelli	1-2 PM	13
	Antiarrhythmics	Dr. Chiappinelli	2-3 PM	14
<b>2-Nov</b>	Anti-inflammatory Steroids	Dr. Kennedy	3-4 PM	39
	NSAIDs	Dr. O'Brien	4-5 PM	36
<b>4-Nov</b>	Anticoagulants	Dr. Kennedy	2-3 PM	34
	Pharmacology Class Session		2-4 PM	
<b>11-Nov</b>	Pharmacology Class Session		2-4 PM	
<b>13-Nov</b>	Renal Review	Dr. Yarbrough	1-3 PM	
<b>17-Nov</b>	Diuretics	Dr. Yarbrough	1-2 PM	15
<b>18-Nov</b>	<b>Pharmacology Class Session: Exam 3</b>		<b>2-4 PM</b>	
<b>24-Nov</b>	Protein and DNA Synthesis Inhibitors	Dr. O'Brien	1-2 PM	44,45,46

	Antivirals	Dr. O'Brien	2-4 PM	49
<b>2-Dec</b>	Protein Synthesis inhibitors/Cell Wall inhibitors	Dr. Kennedy	2-3 PM	43,44, 50
	Antifungals	Dr. O'Brien	3-4 PM	48
<b>9-Dec</b>	Antihelminthics	Dr. Lee	8:30-9:30 AM	53
	TB Drugs	Dr. Ceryak	2-3 PM	47
	Antimalarials	Dr. Ceryak	4-5 PM	52
<b>16-Dec</b>	<b>Final Examination</b>			