

KINE 359 – Medical Pharmacology (Spring 2022)

- **Instructor:** M. Brennan Harris, Ph.D. (mbharr@wm.edu)
- **Office:** Adair Hall, Rm 110
- **Office Hours:** 11-noon or by appointment
- **Class Time:** 9:30-10:50 am, TuTh
- **Class Location:** Boswell 342

Course Overview

This course will introduce students to the general principles of pharmacology and the common medications that they may encounter while working in a clinical setting. Emphasis will be on general classifications of drugs and their mechanisms of action as well as memorization of some of the most commonly prescribed medications.

Course Learning Outcomes

Upon completion of this course students will be able to:

1. Describe basic principles of pharmacology
2. Describe the general process of drug development and administration
3. Recognize common drugs by both their generic and brand names
4. Describe the mechanism of action of lipid regulators
5. Describe the mechanism of action of common antidepressants drugs
6. Describe the mechanism of action of narcotic analgesics
7. Describe the mechanism of action of anti-hypertensive drugs including beta blockers, ACE inhibitors and anti-diuretics
8. Describe the mechanism of action of thyroid and anti-thyroid drugs
9. Describe the mechanism of action of common anti-diabetic drugs
10. Describe the mechanism of action of anti-coagulant and thrombolytic drugs
11. Describe the mechanism of action of anti-infective drugs including anti-bacterial and anti-viral drugs

Course Structure/Schedule

Each week students will be expected to 1) attend lectures and take notes, 2) take a short quiz (or Exam) and 3) participate in discussion centered around an assigned reading. At the end of the course students will also be expected to complete a Final Exam. Material for each week will be posted by the end of the prior week.

Resources

There is no required textbook for the course. All materials will be provided on-line through Blackboard. If you would like a book for reference, I recommend:

Acosta, W. R. (2013). *Pharmacology for health professionals*. Wolters Kluwer Health/Lippincott Williams & Wilkins. ISBN: 9781608315758

Prerequisites and/or Course Requirements

Students enrolled in this course should have demonstrated successful completion of one of the following:

KINE 304 – Human Physiology

Course Grading Policy

The student's final grade will be determined as follows:

- Participation and Quizzes = 20%
- Exam 1 = 20%
- Exam 2 = 20%
- Exam 3 = 20%
- Final Exam (comprehensive) = 20 %

100 %

Participation is based on attendance and participation in discussion of the assigned readings.

Grade cut-offs are as follows:

- >89.49% A
- >87.49% B+
- >79.49% B
- >77.49% C+
- >69.49% C
- >67.49% D+
- >59.49% D
- <59.49% F

Attendance and COVID

“This semester, the world will enter its third year with COVID. As we experience a fifth surge of pandemic with the highly transmissible omicron variant, it is reasonable to expect significant levels of infection at W&M. As an academic community based on faculty and students convening, spring 2022 courses will largely consist of in-person instruction. All of us will follow W&M requirements - vaccinations and boosters, indoor masking, as well as quarantine and isolation when ill. That last is really important: for those who have tested positive, W&M's requirements must be fulfilled before class can be attended in person, and, out of an abundance of caution, anyone with symptoms consistent with COVID- even if they don't have a positive test- should not come to class.

Please note that testing positive for COVID or any other temporary illness is not considered a disability as defined by ADA guidelines and is not under the purview of W&M's Student Accessibility Services (SAS). Thus, any questions should be addressed via email to the instructor" (from the Dean of A&S)

Students are expected to attend each class and should email the instructor ahead of time for approval of an excused absence in which case a supplemental video lecture will be provided to accompany the slide sets that will already be posted. In addition, should the instructor be unable to attend class in-person, the class will continue to meet either synchronously via Zoom at the regular class time or asynchronously via posted video lectures.

Mental Health

Mental health can pose significant challenges to student success at W&M, both in and outside of the classroom environment. The Kinesiology Department wants students to flourish during their time at W&M. If you are struggling with concerns, including, but not limited to, relationships, anxiety, alcohol or drug use, feeling down, trouble concentrating and/or lack of motivation, we hope you will reach out to campus resources, such as the Counseling Center, which is available for walk-ins during business hours and by phone after hours (757-221-3620). You can learn more about their services via this link <https://www.wm.edu/offices/wellness/counselingcenter/>

Diversity

Our department is committed to diversity and inclusion. More information can be found in the [Diversity Plan](#).

Accommodations

It is the policy of William & Mary to accommodate students with disabilities and qualifying diagnosed conditions in accordance with federal and state laws. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical or chronic health diagnosis should be referred to [Student Accessibility Services](#) staff at 757-221-2509 or at sas@wm.edu. SAS staff will work with you to determine if accommodations are warranted, and if so, to help you obtain an official letter of accommodation.

Land Acknowledgement

William & Mary acknowledges the Indigenous peoples who are the original inhabitants of the lands our campus is on today – the Cheroenhaka (Nottoway), Chickahominy, Eastern Chickahominy, Mattaponi, Monacan, Nansemond, Nottoway, Pamunkey, Patowomeck, Upper Mattaponi, and Rappahannock tribes – and pay our respect to their tribal members past and present.

DAY	DATE	TOPIC	READINGS/DUE DATES	NOTES
Week 1				
Th	27-Jan	Introduction		
Week 2				
Tu	1-Feb	Lecture 1 - General Principles of Pharmacology		
Th	3-Feb	Lecture 2 - Drug Development	Quiz 1 Due	
Week 3				
Tu	8-Feb	Lecture 1 - Administration of Drugs		
Th	10-Feb	Lecture 2 - Overview of central nervous system disorders and depression and Central Nervous System Stimulants	Quiz 2 Due	
Week 4				
Tu	15-Feb	Lecture 1 - Cholinesterase Inhibitors and Psychiatric Drugs		
Th	17-Feb	Lecture 2 - Anti-Depressant and Anti-Anxiety Drugs	Quiz 3 Due	
Week 5				
Tu	22-Feb	Lecture 1 - Analgesics - Salicylates and NSAIDS		
Th	24-Feb	Lecture 2 - Analgesics - Narcotics/ REVIEW	Quiz 4 Due	
Week 6				
Tu	1-Mar	EXAM 1		
Th	3-Mar	Lecture 1 - Anesthetics and Overview of PNS		
Week 7				
Tu	8-Mar	Lecture 1 - Adrenergic Drugs and Cholinergic Drugs		
Th	10-Mar	Lecture 2 - Overview of Respiratory System	Quiz 5 Due	
Week 8				
Tu	15-Mar	Spring Break		
Th	17-Mar	Spring Break		
Week 9				
Tu	22-Mar	Lecture 1 - Respiratory Drugs - Bronchodilators, Anti-Asthmatic Drugs, Anti-histamines and Decogestants		
Th	24-Mar	Lecture 2 - Overview of Cardiovascular System	Quiz 6 Due	
Week 10				
Tu	29-Mar	Lecture 1 - Cardiovascular Disease and Cardiotonic Drugs		
Th	31-Mar	Lecture 2 - Anti-agonal, Peripheral Vasodilating and Antihypertensive Drugs	Quiz 7 Due	
Week 11				
Tu	5-Apr	EXAM 2		

Th	7-Apr	Lecture 1 - Diuretics		
Week 12				
Tu	12-Apr	Lecture 1 - Anti-coagulants and Antithrombolytics		
Th	14-Apr	Lecture 2 - Anti-hyperlipidemic Drugs	Quiz 8 Due	
Week 13				
Tu	19-Apr	Lecture 1 - Anti-hyperlipidemic Drugs		
Th	21-Apr	Lecture 2 - Metabolic Disorders and Diabetes	Quiz 9 Due	
Week 14				
Tu	26-Apr	REVIEW		
Th	28-Apr	EXAM 3		
Week 15				
Tu	3-May	Lecture 1 - Thyroid, Stomach, and Sex Hormones/ REVIEW		
Th	5-May	Lecture 2 - Anti-bacterial, Anti-viral and Anti-fungal Drugs	Quiz 10 Due	
F	13-May	FINAL EXAM 9am - noon		