



## BSC 514.01W -Adv Pharmacology Syllabus (Spring 2025)

**Spring 2025**

**Texas A&M University at Commerce  
Online Course**

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**Office Location: NHS 331**

Please e-mail me if you have a question. I will try to respond within 24 hours, except for weekends and holidays.

**Office Hours:** Thursday, 2-3:30 PM or by appointment.

I enjoy teaching and talking with you. If you have questions, drop by my office or join the Zoom session (link below) during office hours. If the time does not work for you, feel free to email me, and we can set up a time that does.

**Office Hour Zoom link:**

<https://tamuc.zoom.us/j/7032367457?pwd=RkFQZmtkcm90emNnUGNDL0E0Sjg0UT09>

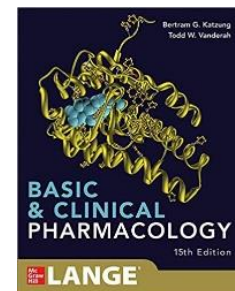
Meeting ID: 703 236 7457

Passcode: OH

### Course Summary

**Textbook(s) Required: Basic and Clinical Pharmacology 15<sup>th</sup> or 16<sup>th</sup> Edition, Katzung and Vanderah, ISBN-13: 978-1259641152**

This book is available for purchase or rental at the ETAMU bookstore and can be bought or rented from various local and online retailers. Readings from the textbook will be announced and follow the course schedule's topic order. In order for you to get the most out of the lecture, it is important that you complete the assigned readings with each recorded lecture since lectures will build on the reading assignment.



### Course Description:

This course provides students with a greater understanding of general concepts of pharmacology. First, specific drugs and sites of drug action are examined, beginning with the autonomic nervous system. We will then focus on the pharmacology of organ systems. Finally,

*The syllabus/schedule are subject to change.*

we examine the pharmacology of the central nervous system. This course is designed for graduate students with a biology, cell biology, and chemistry background.

### **Course Student Learning Objectives (SLO):**

Upon completion of this course, you should be able to:

1. Tell the primary groups of endogenous proteins bound by drugs, the effects of drug binding on their molecular targets, and methods for analyzing drug binding.
2. Discuss the chemical mediators and peripheral nervous system and their actions.
3. Explain the basic disease/disorder mechanisms of the central nervous system and know the major drugs acting on CNS.
4. Explain various adverse organ conditions and drugs used to treat these conditions.

### **Course Requirements**

#### **Minimal Technical Skills Needed:**

Standard skills necessary to use web browsers to access course materials are required. Students should also be able to submit their work as required. Students should be able to use Microsoft Word and PowerPoint.

#### **Instructional Methods:**

This is a fully online course. All course materials will be posted in D2L. I will post announcements on the course's home page or send email notifications.

#### **Student Responsibilities or Tips for Success in the Course**

- ✓ **Checking both D2L and emails for course-related announcements.**
- ✓ Dedicated time to learn course materials.  
Lecture videos will be uploaded each week. It is important to watch the videos and complete the assigned reading each week.
- ✓ Have the required technology (a computer, a secure and reliable internet connection, and other requirements detailed in this syllabus – please read the “Technology Requirements” section.
- ✓ **Take exams within the specified time.**
- ✓ **Submitting the assignment before deadlines.**
- ✓ If special accommodations are needed to be made, notify the instructor in advance.

#### **Assessments:**

There will be three types of assessments that will contribute to the grade. These are:

Quiz 1~4: 24 % (6 % each)

Exam 1~3: 36 % (12 % each, final exam grade can replace the lowest exam grade)

Final Exam: 20 % Cumulative

Assignment 1~2: 20 % (10 % each)

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Exams and Quizzes consist of multiple-choice and short-answer questions drawn from the same test pool, so some questions may be repeated. Students are expected to ensure they have the necessary device and a reliable connection.

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

**Important information:**

1. **It is the student's responsibility to check emails and D2L for exam dates and assignment postings & deadlines**
2. There will not be additional points or extra credits. A student's grade will come from the points they earn in the listed assessments.
3. Exams and Quizzes: open-book and open notes
  - (a) You will have one to two minutes to answer each question. If an exam has 40 questions, you must complete and submit them in 60 minutes.
  - (b) Please read the instructions, if any, carefully before beginning the exam.
  - (c) Exams are usually held on Fridays~Sunday. Students can take the exam online during this 72-hour time window. The schedule is subject to change.
  - (d) No requests to open the exams earlier will be accepted.
  - (e) Make-up exam requests must accompany supporting documents (e.g., a doctor's note). The reasons for not taking an exam within the designated time should be acceptable, as outlined in your student handbook.
  - (f) Failure to take the exams within the designated time will result in ZERO credit.
4. The assignment should be submitted before the deadline. The assignment will be checked for plagiarism.

Assessment	Time/Due dates	Percentage of the final grade
Quiz 1	Feb 7-9	6 %
Exam 1	Feb 14-16	12 %
Assignment 1	Due Mar 3	10 %
Quiz 2	Mar 7-9	6 %
Quiz 3	Mar 21-23	6 %
Exam 2	Apr 4-6	12 %
Quiz 4	Apr 18-20	6 %
Exam 3	Apr 25-27	12 % (final exam may replace the lowest grade)
Assignment 2	Due May 5	10 %

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Final Exam	May 8-10	20 % (cumulative)
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## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements.

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all coursework in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's house, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please get in touch with your Instructor.

### Technical Support

If you have technical difficulty with any part of Brightspace, please get in touch with Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

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<https://community.brightspace.com/support/s/contactsupport>

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may require the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

## **University Specific Procedures**

### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding interacting with students in an online forum: <https://www.britannica.com/topic/netiquette>.

### **TAMUC Attendance**

For more information about the attendance policy, please visit the [Attendance Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their academic work. For more details and the definition of academic dishonesty, see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

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<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Gege Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

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Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

## **COURSE OUTLINE / CALENDAR**

Week 1 Jan 13

Chapter 1. THE NATURE OF DRUGS AND DRUG DEVELOPMENT

Pharmacology, protein targets of drug binding, agonist, drug antagonism, desensitization.

Week 2 Jan 20

Chapter 2. DRUG RECEPTORS AND PHARMACODYNAMICS

drug binding, drug-receptor interactions, measurement of drug binding, receptor groups, structure and signal transduction mechanisms, ion channels, G-protein coupled receptors, receptor tyrosine kinases, nuclear receptors

Week 3 Jan 27

Chapter 3/4 PHARMACOKINETICS AND BIOTRANSFORMATION

translocation of drug molecules, drug disposition, special delivery systems.

Week 4 Feb 3

Chapter 6: INTRODUCTION TO AUTONOMIC PHARMACOLOGY

peripheral nervous system, chemical transmission, mechanisms of transmitter release, termination of transmitter action.

**Quiz 1 (Chapters 1, 2, 3/4) on Feb 7-9**

Week 5 Feb 10

Chapter 7/8. CHOLINERGIC TRANSMISSION

acetylcholine receptors, physiology of cholinergic transmission, effects of drugs on cholinergic transmission.

Week 6 Feb 17

Chapter 9/10. NORADRENERGIC TRANSMISSION

classification, physiology, and drugs.

**Exam 1 (Chapters 1, 2, 3/4, 6, 7/8) on Feb 21-23**

Week 7 Feb 24

CHAPTER 16. HISTAMINE, SEROTONIN, PURINES, LOCAL HORMONES, CANNABINOIDS

Chapter 19. PEPTIDES AND PROTEINS AS MEDIATORS AND NITRIC OXIDE SIGNALING

Selected from Chapters 18 and 36. ANTI-INFLAMMATORY DRUGS

**Assignment 1 Due Mar 3**

Week 8 Mar 3

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Selected from Chapters 11~14. DRUGS AFFECTING THE HEART, CIRCULATORY SYSTEM, AND BLOOD

**Quiz 2 (Chapters 9/10, 16, 18) on Mar 7-9**

Week 9 Mar 10

***Spring Break. No Class***

Week 10 Mar 17

Chapter 15. URINARY SYSTEM

Chapter 20. RESPIRATORY SYSTEM

Week 11 Mar 24

Chapter 62/41. GI TRACT, GLUCOSE METABOLISM, AND OBESITY

**Quiz 3 (Chapters 11~14, 15, 20) on Mar 28-30**

Week 12 Mar 31

Selected from Chapters 37~40, 42. PITUITARY, ADRENAL CORTEX, THYROID, REPRODUCTIVE SYSTEM, AND BONE METABOLISM

**Exam 2 (Chapters 9/10, 16, 19, 11~14, 15, 20, 62/41) on Apr 4-6**

Week 13 Apr 7

Chapter 21. DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM

Week 14 Apr 14

Chapter 28. NEURODEGENERATIVE DISEASES, ANESTHETIC AND ANALGESIC DRUGS

Chapter 22. ANXIOLYTIC AND HYPNOTIC drugs

**Quiz 4 (Chapters 37~40/42, 21) on Apr 18-20**

Week 15 Apr 21

Chapter 29/30. ANTIPSYCHOTIC AND ANTIDEPRESSANT DRUGS.

Chapter 32. DRUGS OF ABUSE

**Exam 3 (Chapters 37~40/42, 28, 21, 22) on Apr 25-27**

Week 16 Apr 28

Assignment 2 due on **May 5**

**Final Exam\* on May 8-10 (Thu-Sat)**

\*The final exam is a comprehensive exam that will cover all the chapters.

**\*Please check the academic calendar for details on holidays and the current semester's start and end dates. The semester begins on January 13, 2025.**

**\*ALL DATES AND CHAPTERS COVERED ARE TENTATIVE AND SUBJECT TO CHANGE.**

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