

**Course:** Neuropharmacology BIOL/PSYC4309  
**Instructor Name:** Linda I. Perrotti, Ph.D.  
**Office Number:** Life Sciences Building Room 511  
**Email Address:** [Perrotti@uta.edu](mailto:Perrotti@uta.edu) (please use email on WebCT ONLY)  
**Office Hours:** Monday 10:00 - 11:00 AM or by appointment  
**Time and Place of Class Meetings:** MW 2:30PM - 3:50PM LS 102

**Course Description:** The neuropharmacology course will discuss the drug-induced changes in functioning of the nervous system. The specific focus of this course will be to provide a description of the cellular and molecular actions of drugs on synaptic transmission. This course will also refer to specific diseases of the nervous system and their treatment in addition to giving an overview of the techniques used for the study of neuropharmacology.

**Course Objectives:** The objective of this course is to introduce you to the chemical basis of behavior, and how various drugs influence the biological and psychological aspects of a behaving organism. This will be accomplished with a general introduction to the basics of neuropsychopharmacology and the chemical basis of the nervous system, followed by an evaluation of major drug classifications, emphasizing primarily the biological, and at times the clinical and social dimensions of their actions.

By the end of the course, you should minimally have a basic understanding of:

1. Principles of pharmacology
2. Brain chemistry/chemical signaling
3. Basic understanding of methods in neuropsychopharmacology
4. Mechanisms of action for the most common drugs
5. The physiological, cognitive and behavioral impact of drug use and abuse

**Prerequisite:** BIOL/PSYC 3322 Introduction to Behavioral Neuroscience/Brain and Behavior OR any introductory course in cell biology.

### Readings

**Required Textbook:** Meyer, Jerrold S., and Linda F. Quenzer. *Psychopharmacology: Drugs, the Brain and Behavior*. Sunderland, MA: Sinauer Associates, 2005. ISBN: 9780878935345.

### *Additional books to build your library:*

Iversen, Iversen, Bloom and Roth. *Introduction to Neuropsychopharmacology*. Oxford University Press New York, NY. 2009. ISBN: 978-0-19-538053-8.

Nestler, Hyman, and Malenka. *Molecular Neuropharmacology: A Foundation for Clinical Neuroscience*. 2nd ed. New York, NY: McGraw-Hill Professional, 2008. ISBN: 9780071481274.

Julien, RM, *A Primer of Drug Action*. Worth Publishers. New York, NY. 2008. ISBN: 978-1429206792

Cooper, Jack R., Floyd E. Bloom, and Robert H. Roth. *The Biochemical Basis of Neuropharmacology*. 8th ed. Oxford, USA: Oxford University Press, 2002. ISBN: 9780195140088.

**Specific Course Requirements:** This is an intensive course. Students are expected to know a lot of detailed information. Be sure to read textbook both before and after attending lectures. Attending lectures is extremely beneficial to your performance in this advanced course.

**Examinations:** There are a total of four (4) exams. Three of these are given during the course of semester and each cover approximately one third of the course material. The fourth is a comprehensive final examination. Make-up examinations for the final examination will be given only for university-approved absences and the makeup examination must be taken within one week of that

exam date. The format for exams may be multiple choice, matching, fill-in-the blank, short answer or essay questions. A student arriving late after the scheduled class start time, on an exam date, will not be allowed to take the exam after the first completed exam is turned in. **Exams require the use of Scantron Form No. 4521, two #2 pencils and an eraser.**

**Make-up exam policy:** If you miss an exam, a grade of zero (0) will be given. A student arriving late after the scheduled class start time, on an exam date, will not be allowed to take the exam after the first completed exam is turned in. Make-up exams will only be given to those with University-approved excuses. Written documentation for a University-approved excuse (see Catalog <http://www.uta.edu/catalog/general/academicreg>) must be received within three (3) days of the missed exam date. In the interest of accommodating everyone's schedule, individual make-up exam times will **not be** arranged. Rather, the class time on the final lecture day (May 5<sup>th</sup>) will be used to schedule all make-up exams.

**Assignments:** There will be ten (10) assignments worth one (1) point each. For each of the assignments, you will need to read a research article related to the current topic of discussion and complete a brief summary of the article. You will submit summaries on WebCT and bring them to class for in-class discussion. Credit will be given for complete and thoughtful responses.

**Course Evaluation & Final Grade:** The course grade will be based on the mean of the three (3) highest exam grades plus any points you have earned from completed the assignments (up to 10). *If you miss an exam and do not have a University approved excuse for doing so this will be the grade that is dropped from the final average.*

**Grade Calculation:** Note: UTA policy will not allow distribution of grade over the phone call or email. The scores from each exam will be averaged and a letter grade will be assigned where A > 90%, B > 80%, C > 70%, D > 60%, F < 59%. **NOTE: There will be no extra credit work to make up the grade.**

**Borderline Grades Stay Borderline:** Every semester some people score just below the borderline of the next highest grade. I have great sympathy for people who find themselves in that position, but I have also found that raising those grades simply uncovers more people whose grades are near the new borderline. This situation makes everybody edgy. Therefore, my policy *must* be that borderline grades stay borderline. Avoid that unhappy region and we will all be better off.

**Attendance Policy:** No mandatory attendance, but it is *highly* recommended. Also, if for any reason you do miss a particular class you are still responsible for material covered during that session.

**Drop Policy:** Please refer to university drop policy. Please also refer to the academic calendar (<http://www.uta.edu/uta/acadcal/>).

**Americans With Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled *Americans with Disabilities Act (ADA)*, pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens. As a faculty member, I am required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability). Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

**Academic Integrity:** It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Series 50101, Section 2.2)

**Student Support Services Available:** The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabi. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. Classes are held as scheduled during this week and lectures and presentations may be given.

**E-Culture Policy:** The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning registration, financial aid, payment of bills, and graduation may be sent to students through email. All students are assigned an email account and information about activating and using it is available at [www.uta.edu/email](http://www.uta.edu/email). New students (first semester at UTA) are able to activate their email account 24 hours after registering for courses. There is no additional charge to students for using this account, and it remains active as long as a student is enrolled at UT-Arlington. Students are responsible for checking their email regularly.

**Grade Grievance Policy:** The University Grade Grievance Policy will be followed.

## Tentative Lecture/Topic Schedule:

<u>Week</u>	<u>Date</u>	<u>Lecture Topics</u>	<u>Reading Assignments</u>
1	Jan 20 - 25	Principals of Pharmacology	Chapter 1
2	Jan 27- Feb 1	Structure and Function: the nervous system	Chapter 2
	<b>Feb 3</b>	<b>Census Date</b>	
3	Feb 3 - 8	Signaling	Chapter 3
4	Feb 10 - 15	Catecholamines	Chapter 5
			<b>**Assignment #1</b>
	<b>Feb 17</b>	<b>EXAM 1</b>	
5	Feb 22 - 24	Serotonin and Acetylcholine	Chapter 6
6	Mar 1 - 3	Glutamate and GABA	Chapter 7
7	Mar 8 - 10	Reward Mechanisms and Addiction	Chapter 8
			<b>**Assignment #2</b>
	<b>Mar 15 - 17</b>	<b>Spring Break!!!</b>	
8	Mar 22	Ethanol	Chapter 9
			<b>**Assignment #3</b>
9	Mar 29	Opiates	Chapter 10
			<b>**Assignment #4</b>
10	Mar 31	Stimulants	Chapter 11
			<b>**Assignment #5</b>
	<b>April 2</b>	<b>Last day to drop a class</b>	
	<b>April 5</b>	<b>EXAM 2</b>	
11	Apr 7	Nicotine and Caffeine	Chapter 12
			<b>**Assignment #6</b>
12	Apr 12	Marijuana	Chapter 13
			<b>**Assignment #7</b>
13	Apr 14	Phantasticants	Chapter 14
			<b>**Assignment #8</b>
14	Apr 19	Antidepressants and Affective Disorders	Chapter 16
			<b>**Assignment #9</b>
15	Apr 26	Anxiolytics and Anxiety Disorders	Chapter 17
			<b>**Assignment #10</b>
	<b>Apr 28</b>	<b>EXAM 3</b>	
	May 5th	Make up Exam if applicable	
	<b>May 10th</b>	<b>Cumulative Final Exam</b>	

**\*\*Assignments are due on the Wednesday of the Week\*\***