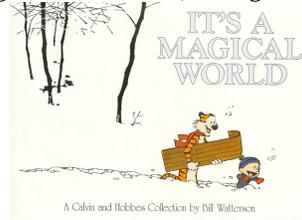


Psychology 507 Pharmaco-Therapy

(Revised July 2014)

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 *Note: This syllabus is subject to small changes once the semester begins. These will include corrections and slight refinements in the assignment(s) – nothing major.*

Description of Course from Graduate Catalogue:

507. Pharmaco-therapy. Three semester hours.

This course provides an examination of psychoactive medications and their use in the treatment of mental and behavioral disorders. The efficacy and safety of medications will be discussed. The course presents basic principles of pharmaco-therapy that are the rationales behind the pharmacological treatment of psychological disorders. Applied components will relate to the aspects of the course material to mental health service delivery. The class also examines the historical psychopharmacological perspective, basic pharmacology underlying the use of medication, and recent research in the field. Prerequisites: Admission to a Psychology Graduate program.

Textbook: Stahl, S. M. (2013). *Stahl's essential psychopharmacology: Neuroscientific basis and practical applications* (4th ed.). Cambridge, UK: Cambridge University Press. [This is a paperback, currently \$81.15 on Amazon.com. It is also available on Kindle but that format may be more difficult to work with in the context of this course's demands.]

You will also need access to this book to write your paper:

American Psychological Association. (2009). *Publication manual* (6th ed., second printing or later). Washington, DC: Author.



And never forget, you can get almost any book cheaper than at the university bookstore.

Web Enhancement:

We will manage this course in part using online “web enhancement.” This fact has a number of implications for your conduct and success:

1. As soon as available you should go to the online web site for this course, complete the tutorial (if you like), and familiarize yourself with what is there (which will be added to as the semester progresses). You may access eCollege by going to your My Leo account and clicking on eCollege.
2. You will turn in most (if not all) written assignments in assigned “dropboxes.”
3. Use this formula to name the files you turn in this way: YOURLASTNAME.YOURFIRSTNAME.AssignmentName.Date. If I were going to turn in a “507 project” assignment on December 4, 2018, the file name would be BALL.STEVE.507Project.12-4-14. Check the Dropbox Protocol link on eCollege for more details. Right now you will need to turn in only one project this way. I will ignore misnamed submissions.
4. You will receive written feedback for most (if not all) of your written assignments by way of eCollege.
5. You will take exams online.
6. You will retrieve documents to read from me by way of the Doc Sharing tab, and web sites to read on the “Webliography” tab. Some of the latter will be accessible by way of links placed strategically within each week’s overview and assignments.
7. You will need to check the Announcements section on the course home page daily.
8. You will need to check your university e-mail (_____@leo.tamu.edu) daily.
9. Do not send me an e-mail about this class except through eCollege. I will not respond to other e-mails about this class.
10. If you have a question of general concern to the class (not just a possibly personal or private concern of your own, go to the **virtual office** and ask it there. That way everybody has access to the answer and I don’t have to answer it more than once. I will ignore your e-mails if you are ignoring this requirement.

Our Contractual Agreement:

Through the university I am offering this course to you (and a grade in it) in exchange for your doing the work specified in this syllabus, and otherwise complying with university regulations and requirements. If you choose to continue your enrollment in the course (whether you attend or not), I will assume that this agreement is consummated. You and I will thus be responsible for the content of this syllabus and complying with its specifics. Each of us is further acknowledging that we will abide by and accept the outcomes generated in this course through the appropriate application of the guidelines of its syllabus.

General Objectives of the Course:

Students taking this course should be able to do the following at the end of this course:

1. Understand, use, and articulate an “intuitive” model of the biochemistry entailed in neural transmission and psychopharmacological action.
2. Describe the biological character of the neuron along the following dimensions:
 - a. DNA-RNA actions, and transcription factors – general model
 - b. Describe the way in which proteins are synthesized in the neuron, especially those of direct importance in neural transmission (both intracellularly and synaptically)
3. Describe and distinguish G protein-linked receptors and those based on ion channels (ligand-gated and voltage sensitive ion channels)
 - a. Structure and function in normal neural activity
 - b. Vicissitudes of these receptors under the influence of psychoactive drugs
 - c. First, second, third, fourth, fifth messengers,... and possibly further
4. Distinguish the different types of receptors for each neurotransmitter/cotransmitter system that are relevant to our current understanding of useful

- psychopharmacological action
5. Describe the character and function of neurotransmitter reuptake mechanisms, both at the neural membrane and at the vesicular level
 6. Describe the known mechanisms of transmitter neutralization, and their relevance to psychopharmacologically effective drug action
 7. Describe in general terms the way in which the genome affects and is affected by neural *and* psychopharmacological activity
 8. Describe the fundamental neurochemical circuits that are entailed in psychopharmacology
 9. Describe the way in which psychological symptoms can be thought of (at least in part) as expressions of neurochemical circuits
 10. Describe the fundamental characteristics and (presumed) neural substrate of
 - a. Schizophrenia and other psychotic processes
 - b. Mood disorders
 - c. Anxiety
 - d. Pain
 - e. Sleep and wakefulness, and their irregularities
 - f. Attention and executive function
 - g. The cognitive decline of dementia, relating to separate etiologies as possible
 - h. Addiction and substance abuse
 11. Identify by name (generic and trade) and their principal actions, behavioral changes associated with them (regarding symptom change, side effects, important interactions with other drugs or foods, etc.), the U.S. drugs currently available for the treatment of
 - a. Schizophrenia and other psychotic processes
 - b. Mood disorders
 - c. Anxiety
 - d. Pain
 - e. Disturbances of sleep and arousal
 - f. Attention-deficit/hyperactivity disorder (ADHD) and related attentional problems
 - g. The cognitive decline of dementia
 - h. Addiction and substance abuse
 12. Describe important considerations in the prescription of psychoactive medication for children, pregnant women, and the elderly
 13. Describe the general processes by which drugs in the United States are developed, tested, and marketed (including the use of patents and trade names)
 14. Identify optimal prescribing algorithms that physicians should follow for best practice for all the disorder groups in number 11 above
 15. Describe strategies for evaluating the medication regimens of your client, and communicating what you know to... whomever
 16. You will also gain knowledge of biological, cultural, developmental, and social influences on behavior and mental health, behavioral and emotional impacts on learning and life skills, and evidence-based strategies to promote social-emotional functioning and mental health

Topical Outline:

 *Note: This is an idealized plan. Reality and the necessity of slowing down on some material makes it simply a fond hope. We will do what we can though. Readings in the Stahl text should be obvious, but I will tell you what to read in class if you ask me. I will also post Powerpoint™ presentations on eCollege.*



- I. The nervous system – a brief review
- II. Neurotransmission
- III. Inventing, testing, and marketing drugs
- IV. G protein-linked receptors
- V. Ion channels, messenger systems, enzymes, fast & slow actions
- VI. Genetic and neurochemical circuits
- VII. Schizophrenia and psychotic process
- VIII. Mood disorders
- IX. Anxiety disorders and pain
- X. Attentional disorders
- XI. Sleep disorders
- XII. Dementia and related cognitive disorders
- XIII. Drug abuse and addiction; impulsive and compulsive behavior
- XIV. Evaluating your clients' pharmacological needs, and their physicians' choices; communicating with a prescribing physician appropriately



Note: this outline will be expanded once the semester begins (and probably before)

Course Assignments and Requirements:

1. Students will take two cumulative examinations online through eCollege. These exams will be available for a designated amount of time, and they will be based on the readings, in-class presentations, and interactions, and will mostly be in multiple choice format (though there will be some essay and short answer questions). You will take the exams outside of class time, and we will meet during the weeks that exams are scheduled (including the week the final is scheduled).
2. Students will complete a review paper of prescription practices for an assigned set of psychopharmacologically active medications, which you will place in the eCollege dropbox for the week before the final examination is scheduled (for me to grade), and in the docsharing location, also on eCollege, for other students in the class to have. The last exam will include items from these papers. The presentation and paper should be based on a review of relevant literature, and it should be of practical value to the people in the class (mental health professionals who are not physicians, biologists, or professional pharmacologists). You should also include a table summarizing the drugs you have reviewed by generic and trade names, principal pharmacological action, and side effects. The work should also demonstrate a clear and reasonably in-depth understanding of course content. Your paper should be written in *strict* APA format (6th edition), and fully documented. Use 1" margins all the way around and 12-point, Times New Roman font, with no extra spaces between lines or paragraphs.

Grading Procedures:

The examinations and the paper will each count as 100 points (a total of 300 possible points). To get an A, you will need to earn 275 total points, and for a B you will need 240.

Here is the “rubric” by which I will assign you a score of up to 100 points on the papers you write:

Question	No, or Almost Not at All	Partially	Almost Completely
Did you introduce the reader comprehensively to the medications involved, and the empirical variables relevant to their understanding and use (briefly including the presumed neurochemical substrate of the drugs’ action, when and to whom to prescribe (indications), when and to whom not to prescribe (contradictions), relevant dosages, drug interactions and side effects, recognizing signs of trouble)? You should address nonpsychiatric applications as well.	0	25	35
Did you present a summary of your data in tabular form that includes as many of the drug class as possible, with trade and generic names, approved uses, off-label uses, available dosages, notable side effects, and special population cautions?	0	15	25
Did you demonstrate adequate knowledge and use of course content in writing your paper?	0	7	10
Did you write your paper in clear English sentences, organized and unified by the purpose of your writing?	0	5	10
Does the paper comply <i>entirely</i> with APA format and style?	0	5	10
Did you attach a complete and adequate References section identifying all the works cited in the body of the paper (which should be all the sources you have consulted)?	0	2	10

Maximum points under the rubric = 100. The number of points you earn will be your grade on the paper.

Here is a table assigning topics for the paper to the current class members. Others will be added to the list in the order that they sign up for the class, first by replacing the drops, and then by adding sequentially to the bottom of the list. These are all negotiable and may be traded, all with my explicit approval

Student	Paper Topic	Presentation & Posting Date
1.	Traditional antipsychotic medications (e.g., thioridazine, fluphenazine, chlorpromazine, haloperidol, and many more)	
2.	Atypical antipsychotic medications having some direct form of DA ₂ antagonism or partial agonism	
3.	Mood stabilizers in psychotic and mood disorders	
4.	Stimulant & non-stimulant drugs in the treatment of attentional disorders	
5.	SSRI’s for treatment of depression	
6.	Drugs for pain management	

7.	SNRI's for the treatment of depression	
8.	Drugs for the treatment of anxiety	
9.	Drugs for the control of pain	
10.	Drugs for the regulation of sleep	
11.	Drugs that are useful in depression that are not SSRI's, NDRI's, or TCA's.	

Grading Procedures:

All other things being equal, you will perform better in this course if you come to class regularly. We are all adults and I understand that you may have many priorities, planned and unplanned, which exceed those of this course. Go, therefore, when you must, but note: Things happen in college classrooms which are crucial to becoming educated and for which it is difficult (perhaps impossible) to test. Sometimes these things are serendipitous and represent the most significant of our learnings; and of course in some class periods they may not happen at all. They usually are unpredictable and rely on spontaneous exchanges involving students and the professor. They may occur before the instructor arrives, or at a break. They are worth the wait and the intervening tedium. When you are absent – even if someone takes notes for you – you will miss them. To ensure that this vital part of your education is there for you, I will enforce the university's absence policy in the following way:

If you have excessive absences (either excused or unexcused), I will assign you a grade of "F" in this class. You may avoid this fate by officially dropping the course. For purposes of this policy, an absence occurs if you miss 10 or more minutes of a single class period, from the scheduled beginning (or my arrival, whichever is later) to the scheduled end of the period (or my dismissing you, whichever comes earlier). Absences become excessive as a direct function of how much actual class you are missing. Use the following table as a guide:

Approximate Number of Scheduled Class Meetings	Minimum Number of Absences to Get an F	Warning Issued
15	4	with distribution of syllabus on eCollege (week 0)

As noted elsewhere, some (but not all) work in this course may be made up if it was missed due to an excused absence. University policy permits the instructor of a class to define valid excuses for an absence. I include, in general the following things as valid reasons for missing a class:

- (1) participation in an authorized university activity;
- (2) illness of the student or a first-degree relative who cannot be provided *necessary care* without the student's missing class;
- (3) death in a student's immediate family; and
- (4) fulfilling one's legal responsibilities (jury duty, court hearings) as a citizen
- (5) documented alien abduction of (not by) the student lasting over 12 hours (3 hours if alien-induced pregnancy, or larval implantation, is documented).

Such excuses must be documented to my satisfaction, including support for the notion that you had no choices (e.g., alternative university activities, legal continuance, etc.). As noted in the table above, I will counsel you in some form as your absences accumulate to near critical levels.

If you miss one exam with an approved excuse, I will assign your grade on the other test (which you must take) as your grade on the missed exam. If you miss both exams with excused absences, I will give you an incomplete for the course (if you otherwise are passing). The

incomplete must be removed by the end of the long semester following this one (lest the university convert it automatically to a grade of "F"). You, or someone with your power of attorney, must negotiate the terms of a contract for removing such an incomplete *before* final grades are due for the semester. Since you could miss the final due to a serious accident or illness, one which may incapacitate you, you may wish to arrange for a limited power of attorney now.

Conduct:

Admission and attendance in a college or university form an honor and a privilege. Where tuition and other expenses are subsidized, either by private or public funds, the person has received an additional trust that inherently entails conducting one's affairs as a student within the constraints of civil society. In this class I will expect you behave in a way that is respectful of others, their right to receive (and deliver) elements of a college education, and their identities as unique persons in the world. I expect us all to act toward others as we would like them to act toward us.

I will also expect you not to plagiarize, steal or otherwise procure tests or other class materials that are not supposed to be publicly available (including copyright violations), or cheat on examinations. I will give you an F for any of these actions, and I will make an appreciable effort to have you dismissed from the university.

Here are some other dos and don'ts that will also be a part of our code of conduct in class:

1. Far beyond the particulars of this course, do respect the divine principle of the universe, which seems to be detectable in other people. As one deity is said to have put it: "Inasmuch as you have done it to the least of these [e.g., other students and the teacher, other enemies], you have done it also to me."
2. Do remember that this course is about a limited area of empirical content; don't forget that there are bigger realities. This is just a course.
3. Don't talk trash in excess. Occasional right-brain language epithets may be okay for emphasis, but learn to use your language more elegantly than that (or remain silent).
4. Do take some time off from constant work during the semester. Do remember to reflect on things beyond the course. (This is not an injunction to ditch class, but rather a reminder to place your studies in perspective.)
5. Do let those who support and have supported your educational efforts know how much you appreciate them sometime during the term.
6. Don't attack the person of another member of the class.
7. Don't sexually (or otherwise) harass a member of the class.
8. Don't steal others' work (plagiarism is a capital crime around here!).
9. Don't distort the truth, about your data, its sources, or your colleagues.
10. Do be satisfied with where you are in your own professional development. Others may be farther along than you, but don't waste time envying them. Do work to become who you were meant to be.

Faculty members are required to include in their course syllabi the following statement: "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Handbook, Policies and Procedures, Conduct)

Faculty members are encouraged to include in their course syllabi the following statement:

Students with Disabilities:

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
Gee Library
Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

GUY TEACHING COURSE:



Steve Ball As a part of a closed gene pool
(some of which lies quietly in the background)

Associate Professor of Psychology
Office: Binnion 122 (enter through Binnion 101)
Phone (in Developmental Cognition Lab – switches to fax after 7 rings, sometimes fewer): 903-886-5586 – go to Binnion 101 to find me in the lab
Community Counseling & Psychology Clinic: Binnion 101 (903-886-5660)
steve.ball@tamuc.edu

Office hours posted once the semester begins

Class Schedule:	PSY 507	Monday 430-710 pm
	PSY 317	Tuesday & Thursday 2-315 pm
Clinic Schedule:		Tuesday-Thursday 9-5pm