

PSYCH 105 Drugs, Brain and Behavior  
 MWF 9:10-10:10 Clough 114

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 120 Clough x3990

TEXTS: Levinthal, CF (1999). Drugs, Behavior and Modern Society, 2nd edition. Needham Heights, MA: Allyn and Palfai, T and Jankiewicz, H (1997) Drugs and Human Behavior, 2nd edition. Madison, WI: Brown and  
 RESERVE: Feldman, RS, Meyer, JS and Quenzer, LF (1997) Principles of Neuropsychopharmacology. Sunderland, MA: Bloom, FE and Kupfer (eds) (1995) Psychopharmacology: The Fourth Generation of Progress. New York, Raven Press.

<u>COURSE OUTLINE AND READING ASSIGNMENTS (TENTATIVE)</u>			<u>LEVINTHAL</u>	<u>PALFAI &amp; JANK.</u>
Aug	26,28	Introduction to "Drugs, Brain and Behavior" <b>BACKGROUND:</b> Principles of Neurobiology and Pharmacology	1 - 46, 70-71	3 - 14
	31	The Neuron: The basic functional unit of the nervous system		97 - 107
Sep	2,4,9	Neurotransmitters and the Synapse: How neurons communicate	60 - 64	17 - 22, 135 - 165
	11,14,16	The Nervous System: Basic structure and function		56 - 60 108 - 134
	18,21	Pharmacology: Principles of drug action in the body	48 - 55, 64 - 69	23 - 93
	23	<u>EXAM</u>		
		<b>SEDATIVES AND ANXIOLYTICS</b>		
	25	Barbiturates (Nembutal, Seconal, Luminal, etc.)	293 - 297	169 - 177, 202 - 216
	28,30	Minor Tranquilizers (Valium, Ativan, Xanax, etc.)		297 - 307 217
- 232				
Oct	2,5,7	Alcohol	175 - 218	178 - 201
	9,12	Opium, Morphine, Heroin, Percodan, Darvon, etc.		94 - 115 365 - 414
	14	<u>EXAM</u>		
		<b>HALLUCINOGENS AND MARIJUANA</b>		
	16,21,23	LSD, Psilocybin, Mescaline, MDMA, PCP etc.	117 - 136	417 - 438
	26,28	Marijuana	139 - 156	464 - 478
		<b>STIMULANTS</b>		
	30 Nov 2,4	Cocaine and Amphetamines		72 -
92	289 - 326			
Nov	6	<u>EXAM</u>		
	9,11	Nicotine	220 - 242	344 - 361
	13	Caffeine	244 - 258	327 - 343
	13	<u>PAPER DUE</u>		
		<b>PSYCHIATRIC MEDICATIONS</b>		
	16,18,20	Antipsychotics (Thorazine, Haldol, Navane, Clozaril, etc.)		309 - 315 235
- 261				
	23,30 Dec 2	Antidepressants (Elavil, Prozac, Wellbutrin, etc.) and Lithium	315 - 323	262
- 285				
		<b>MISCELLANEOUS</b>		
Dec	4	Inhalants (Nitrous Oxide, Glues, Solvents, Amyl nitrite, etc.)	260 - 272	
	7,9	Anabolic Steroids and other performance enhancing drugs		159 - 174
	9	<u>REVISIONS DUE</u>		
	11 8:30 am	<u>FINAL EXAM</u>		

GOALS:

The goal of this course is to help the student acquire the knowledge and reasoning skills that will enable him or her to think critically about the effects of drugs on the brain and behavior. To do this we must first understand the basic structure and function of the nervous system as well as the principles of drug action within the body. Thus, the first four weeks of this course will provide a tutorial on basic neuroanatomy, neurophysiology and neuropharmacology. No background in biology is necessary beyond what is covered in a high school biology course. Following this we will examine five broad categories of psychoactive drugs: (1) sedatives and anti-anxiety drugs, (2) narcotics, (3) hallucinogens and marijuana, (4) stimulants and (5) psychiatric medications attempting to identify basic mechanisms of action. A central concern in this course is the question of what factors contribute to drug abuse. If time permits we will also examine a variety of drugs such as inhalants and steroids which do not fit into these categories but which none-the-less have an impact on the brain and behavior.

TERM PAPER:

You will submit one eight to ten page paper on topic of your own choosing due Nov 13 (papers will not be accepted after this date). The focus of the paper should be on mechanisms of drug action in the brain and the insight this provides into the drug's psychological and behavioral effects. I suggest you scan the tables of contents of your two texts to see if a topic suggests itself. You might want to focus on a particular drug such as alcohol or marijuana or on the psychopharmacology of some characteristic of our behavior such as sleep, depression, pain, stress, addiction, etc (Note: as some of the latter topics are rather broad, you would need to focus on a specific issue or set of issues within the topic). Topics must be approved by the instructor at least three weeks before the due date. You will have an opportunity to revise your paper after I have provided comments and an initial grade. If you chose to revise the paper it will be due on the last day of classes and you must turn in both the revised manuscript and the original paper with my comments. Your grade will be the average of the grades on the initial and final drafts.

#### GRADING:

The exams and term paper are each worth 100 points. "A" level performance on the paper will require that you go substantially beyond the material covered in your textbooks. However, a "B" level grade is possible with an insightful integration and critique of the material in the two texts. A clear and accurate summary of the material in both textbooks will earn you a "C" level grade. Although you are not graded explicitly on your participation in class, my ability to judge your understanding of the material discussed in your essays is often influenced by the level of understanding you have demonstrated in class. Further, the quality of your contribution to classroom discussions can influence my decision when your grade is on the borderline. As you are expected to contribute to classroom discussions, attendance is required. Unexcused absences will result in a lowering of your grade.

#### RESEARCH COLLABORATION:

All introductory psychology students are asked to participate as research collaborators in 3 hours of ongoing psychological research (alternatively you may write up a discussion of the APA publication, Ethical Principles in Psychological Research, as well as short summaries of four brief experiments published in psych. journals). This exercise provides unique insight into the nature of psychological research. A handout will be distributed describing how to obtain credit for your participation will be distributed later in the course when opportunities for research participation become available. Although you are not graded on this exercise, you will receive an incomplete in the course if you fail to satisfy this requirement or its alternative.

#### HONOR CODE:

The honor code applies to all work submitted to me in this course. Ignorance of the law is no excuse; if you have any questions about whether something you have written might be considered to be plagiarized, please see me before handing it in (do not wait until the day it is due!). Direct quotes must appear within quotation marks followed by the source and page number. To avoid quotation marks, many students will simply paraphrase their source material by substituting synonyms or by reversing the order of the adjectives, nouns or clauses without fundamentally changing the way an idea is expressed. Although this conforms to the letter of the law, it clearly violates the spirit of the law, and does not make a good impression on the person grading your work - me. Demonstrate both to me and, more importantly, to yourself that you understand what you are writing by putting things into your own words. There are few passages in the psychological literature which merit direct quotation.

#### OFFICE HOURS:

MW 1:00 - 4:00 and by appointment.

I am in class MWF 9:10-10:10, MWF 11:30-12:30 and TuTh 1:00-4:00 pm. In addition, I have weekly departmental research meetings Thursday 11:20 - 12:50, and during the hour before I teach, I obsess about the lecture and am usually not particularly sociable. Other than at these times, you should feel free to come by my office - most of the time I don't mind being interrupted, but if I am in the middle of something which can't be interrupted, I will be glad to schedule an appointment when it is convenient for both of us. In addition, communicating with me by email is a good way to get answers to your questions fairly quickly.

My door is often closed to dampen the noise from the classroom immediately across the hall. This is not a sign that I am not in or that I do not want to be disturbed - when I do not want to be disturbed I usually put a sign on my door indicating this. If my door is closed knock and wait for me to answer. Often I am in my lab working on my computer, so if I do not answer in a timely fashion, you will have to enter and find me (you have to go through my office to get to my lab). Don't be shy - I can't always hear your knock and you can't always hear my answer.