

MEDS 350 Drugs and the Brain FALL 2015

- Prerequisites: --BISC 220L or 221L, CHEM 103 or 105
- Units: **2 units**
- SPRING 2015
- MONDAY 10:00-11:50 am
- Classroom **THH112**
 - Instructors: Sean Nordt, M.D., Pharm.D., Cyrus Rangan, M.D., Other guest lecturers

Introduction and Purposes

The overall objective of the course is to learn what we know of the effects of legal and illegal drugs on brain function. Toward that end students will acquire:

- 1) working knowledge of relevant neuroanatomy, neurophysiology and neuropharmacology
- 2) familiarity with the procedures for drug approval by the FDA and the scheduling of drugs
- 3) exposure to basic principles of pharmacokinetics and pharmacodynamics
- 4) general knowledge of prescribed drugs which alter brain function (antidepressants, antipsychotics, anxiolytics)
- 5) specific knowledge of the mesolimbic dopamine system and its position as the final common path for euphoriant and dependency-inducing effects of drugs
- 6) knowledge of the ways in which other brain pathways modulate the mesolimbic system
- 7) knowledge of the ways in which operant learning theory can explain or account for the development of drug abuse and dependence
- 8) familiarity with treatment options for drug abuse and dependence, both pharmaceutical and behavioral
- 9) detailed understanding of the behavioral and neurochemical similarities between drug dependence and other forms of compulsive behavior, such as gambling, overeating, and sexual addiction

Course Requirements and Grades

- One text book will be required: **Drugs, the Brain and Behavior** 2nd edition, 2011 by Brick and Erickson
- **Please read chapters BEFORE lectures to get most out of lectures**
- Lectures will be PowerPoint-based and posted on Blackboard
- Additional journal articles may be required reading on Blackboard
- Grading breakdown
 - 30 % of the grade will be determined by the midterm, 30 % by the final
 - 25% FIVE bi-weekly quizzes (can only miss one quiz during semester, if miss more than one zero on that quiz). Quizzes will be beginning of class and include material from previous lectures after the previous quiz. The four highest scores will be counted.
 - 5% participation
 - 10% on WRITTEN presentation, one page, with at least 5 references

- Exams will be multiple choice or True/False and items will reflect the content of the lectures, readings for the course, and discussions
- **Presentation on psychopharmacology topic of your choosing**
 - Lecture attendance is highly recommended as additional material outside of textbook is discussed
- **Grading Scale:**
 - A 94-100
 - A- 90-93
 - B+ 87-89
 - B 83-86
 - B- 80-82
 - C+ 77-79
 - C 75-76
 - C- 74-70
 - D+ 69-67
 - D 66-64
 - D- 63-60
 - F 59-0

Course Sessions* NB: Dates of topics and quiz may change based upon lecturers and schedules

<i>Session</i>	<i>Topic</i>	<i>Reading</i>
Week 1	Introduction to class, syllabus, grade breakdown, written assignment Drug development/Research/Scheduling of Drugs	Read DBB Ch. 1 and Research Slides
Week 2	NO CLASS Martin Luther King Day	
Week 3	Neurophysiology	DBB Ch. 5
Week 4	QUIZ, Neuroanatomy	DBB Ch. 4
Week 5	Pharmacokinetics/Pharmacodynamics	DBB Ch. 3, DBB Ch. 9
Week 6	NO CLASS President's Day	
Week 7	Major Depression/Schizophrenia	DBB Ch. 15, DBB Ch. 13
Week 8	QUIZ Anxiety disorders/Bipolar Depression	DBB Ch. 14
Week 9	MIDTERM (up to and including week 8)	
Week 10	TBA	

Week 11	Addiction/ Ethanol	DBB Ch. 16, DBB Ch. 6
Week 12	Cocaine/Amphetamines	DBB. Ch. 7
Week 13	QUIZ, Marijuana	DBB Ch. 10
Week 14	QUIZ, Ethanol cont'd, Opioids	DBB Ch. 8
Week 15	Caffeine/Nicotine	DBB Ch. 9
Week 16	QUIZ, Hallucinogens	DBB Ch. 12
FINAL	From Midterm On	

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A:

<http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

Emergency Preparedness/Course Continuity:

In case of emergency, and travel to campus is difficult, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies. Instructors should be prepared to assign students a "Plan B" project that can be completed at a distance. For additional information about maintaining your classes in an emergency please access:

<http://cst.usc.edu/services/emergencyprep.html>