

DRUGS: BRAIN, MIND, AND CULTURE
COGNITIVE SCIENCE 174
Summer 2024 – Barcelona, Spain

MTuWTh 9:00:12:00 pm

INSTRUCTOR

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COURSE GOALS

This course explores the relationship between drugs, the brain, mind, and culture. On our multidisciplinary adventure, we will examine phenomena as small and transient as chemical-docking at brain receptors, and as broad and ongoing as drug use through history. In addition to attending lectures, you will take an active role in learning by participating in discussion of the current and controversial topics presented in your reader, and by forming a group and making a course-related presentation. By the end of our journey, you should acquire a working knowledge of:

- bio-, psycho-, and sociological perspectives on drug use and addiction
- neurotransmitter systems that mediate the effects of psychoactive drugs
- the role of personal expectations, cultural context, and cognitive factors in drug effects
- the influence of science, business, politics, and media in the history of drug policy
- profiles on some of the most commonly used and abused drugs

METHODS OF EVALUATION

You are expected to attend all lectures and discussion sections, complete all assigned readings, participate in discussions, and work on a group term paper. Fulfillment of these expectations will be evaluated with quizzes, exams, and assessment of your group project. The breakdown of the final grade is listed in the table below. No work is accepted late unless there is either prior approval of the instructor/TA or documented proof of emergency and contact with the instructor as soon as possible. There are no make-ups or extra credit projects. The final exam will be administered only at the assigned time. All grading is done out of a number of total points, and final letter grades are based on your performance compared to the rest of the class (i.e. z-score--the number of standard deviations above or below the mean total score).

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| Quizzes (5): | 50% | Group project: | 50% |
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Quizzes are administered each week during the first 10-15 minutes of section, and cover the readings assigned by the instructor. The purpose of these quizzes is to help motivate you to read the material carefully and in a timely fashion so that you are prepared to contribute meaningfully to class/section discussion. Each quiz consists of a variety of questions including a short number of essay questions, and is closed-book and closed-notes (i.e. you may not refer to the reader or notes during the quiz). If you are late to class, you will have that much less time to complete your quiz; if you arrive more than 10 minutes late, you will receive a zero on the quiz.

Group Term Paper Project should be based on course-relevant topics. Each group will consist of 2-3 members. Students choose their own groups and each group decides on a course-relevant topic, subject to instructor approval. You must earn final approval no later than the end of 2nd week, so assemble a group and propose a topic as soon as possible. This way, you can use feedback to revise your topic and stake a claim so another group doesn't take "your" topic first! Summary outlines are due at the end of 4th week. Term papers receive both a group and individual scores, so it is important to work together and, if you have problems with your group, to notify the instructor as soon as possible. More information on projects (e.g. suggested topics, tips for research etc) will be available on the course website.

Discussion Participation is expected and, while not graded separately, will be used to help decide final grades in any "borderline" cases.

READINGS

Articles from the popular press and scientific journals. Available as pdf files from class website.

ACADEMIC INTEGRITY

Academic integrity is expected at all times; cheating and/or plagiarism will not be tolerated. You are encouraged to study and confer with your classmates, but quizzes and exams must be completed alone. Cheating and/or plagiarism will result in automatic failure of the course. For more information on Student Conduct see http://ugr8.ucsd.edu/judicial/22_00.html

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| | COGS 174 <u>DRUGS: BRAIN, MIND, AND CULTURE</u> | |
| WEEK 1 | July 3 – July 7 Overview; Perspectives on Drug Use/Policy/History (1st Quiz on Thursday) | WEEK 1 |
| WEEK 2 | July 10 – July 14 Brain Basics, Pharmacology, Neurotransmitters 1 (2nd Quiz on Thursday) | WEEK 2 |
| WEEK 3 | July 17– July 21 Neurotransmitters 2, Placebo and Expectancy Effects (3rd Quiz on Thursday) | WEEK 3 |
| WEEK 4 | July 24 – July 28 Models of Addiction, Stimulants, Marijuana (4th Quiz on Thursday) (Summary outlines due – on Thursday) | WEEK 4 |
| WEEK 5 | July 31 – August 4 Opiates, Hallucinogens, Alcohol Group Term Paper due – 8/4 | WEEK 5 |

READINGS

Week 1: Perspectives on Drug Use/Policy/History

Drug abuse and addiction: Signs, symptoms, and help for drug problems and substance abuse.

HelpGuide.org.

Lewis, M. (2012). Why addiction is NOT a brain disease.

Becker, G.S. and Murphy, K.M. Have we lost the war on drugs?

Week 2: Brain Basics, Pharmacology, Neurotransmitters 1

Wise, R. (2004). Dopamine, learning, and motivation.

Sample, I. (2004). The new pleasure seekers.

Week 3: Neurotransmitters 2, Placebo and Expectancy Effects

Freeman, S. (2013). How the placebo effect works.

Madrigal, A.C. (2011). The dark side of the placebo effect: when intense belief kills.

Rose, S.P.R. (2002). 'Smart Drugs.' Do they work? Are they ethical? Will they be legal?

Week 4: Models of Addiction, Stimulants, Marijuana

Stafford, T. Drug addiction: the complex truth.

Volkow, N. and Li, T-K. (2004). Drug addiction: the neurobiology of behaviour gone awry.

Kamin, S. and Warner, J. (2010). Blazing a trail.

Riffle, D. (2013). Marijuana is safer than alcohol.

Murray, R.M. et al. (2007). Cannabis, the mind and society: the hash realities.

Week 5: Opiates, Hallucinogens, Nicotine, Alcohol

Glantz, A. (2013). VA pushing pills and getting vets hooked on opiates.

Kroenke, C. D. et al. (2013). Monkeys that voluntarily and chronically drink alcohol damage their brains: a longitudinal MRI study.

Gorka, S.M. et al. (2013). Alcohol attenuates amygdala-frontal connectivity during processing social signals in heavy social drinkers.

Dockrell, M. et al. (2013). E-cigarettes: prevalence and attitudes in Great Britain.

Gray, N.J. (2013). Nicotine yesterday, today, and tomorrow: a global review.