



NEUROSCIENCE

Undergraduate Interdepartmental Program



BRAIN
RESEARCH
INSTITUTE
UCLA

DRUGS ABUSE AND SOCIETY: CONVEYING CONCEPTS TO HIGH SCHOOL STUDENTS

NEUROSC 192C (4 UNITS)

Course Instructors:

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Course Description:

This course will prepare students to give an accurate, knowledgeable and age-appropriate lecture in the area of drug abuse to students at local high schools. The course is designed to: a) increase course participants' knowledge about drug abuse issues (including policy, biology and statistics) in our society, b) give students experience in preparing a presentation that would be suitable in a classroom setting, and c) provide UCLA students the opportunity and training to effectively translate their learned information of abused drugs to an at-risk population. The course is designed as a follow-up from Neurosci C117/C277 (Drugs of Abuse: From Neurobiology to Policy and Education) and will contain an initial didactic/workshop component covering statistics, policy and the co-morbidity of drug abuse issues with psychiatric disorders.

Prerequisites:

Course prerequisites include holding the status of Undergraduate Senior and having previously taken Neurosci C117/C277. Graduate students at UCLA in an area that would enable them to be cognizant of drug abuse neurobiology and/or policy can also enroll.

Class Time and Location:

Mondays, 12:00-2:50 PM

Gonda 3303

Course Format, Assignments and Grading:

Class meeting will feel more like workshops than lectures. The idea is to create an open environment where students and instructors can freely discuss concepts, clarify misconceptions and exchange ideas. Different resources will be made available prior to and during the class meetings to help foster these discussions. As such, students are expected to review the material before coming to class and to engage in scholarly discourse in every class as they work on their drug presentations.

Grading will be based primarily on the drug presentations and on in-class participation, but will also be based on some written assignments. In particular, students will be asked to put together a detailed outline of the contents of their presentations that will serve as the course midterm. Second, students will be asked to produce a “pre-presentation survey” and “post-presentation survey” that will be used to assess the effectiveness of the presentations in the high schools. Third, students will also be asked to put together a “drug information pamphlet” that will be used as a teaching tool during the high school visits. Please see instructions below for details on how to put together the different assignments.

At the end of the course the students will be asked to give us a copy of all their work to be compiled and ultimately used by local schools as a pedagogical tool. Due credit will always be given to the students unless he/she prefers to remain anonymous.

This course will be letter graded on a straight scale: 98-100% → A+, 93-97% → A, 90-92% → A-, 87-89% → B+, 83-86% → B, 80-82% → B-, 77-79% → C+, 73-76% → C, 70-72 → C-, 55-69 → D, 0-54% → F; with a 70% (C) considered a passing grade. Please keep in mind that there are no curves in this course so each student earns their grade based on the scale above regardless of what the class grade distribution looks like. The grading structure is as follows:

Weekly participation → 10%
 Written presentation outlines → 15%
 Initial drug presentation → 25%
 Dress rehearsal presentation → 15%

Final presentation to high school → 15%
 Pre/post presentation surveys → 5%
 Drug information pamphlets → 15%

Class Schedule:

Week 1 (Mar 30)	<ol style="list-style-type: none"> 1. Introduction to course. 2. Group selection. 3. Assignment of drug categories. 4. Where to get reliable information for the presentations. 5. Past year survey discussion. 6. Presenting science to high school students. 7. Areas of focus in developing the presentation.
Week 2 (Apr 6)	<ol style="list-style-type: none"> 1. Introductory presentation on the brain, neurons, addiction and the general action of drugs on the brain. (<i>Group work, bring example slides to class</i>). 2. Discuss pre-survey questions. (<i>Individual work, bring potential survey questions to class- see instructions below</i>).
Week 3 (Apr 13)	<ol style="list-style-type: none"> 1. Brainstorm anatomy breakout sessions. (<i>Three stations will be used: human brains, models of neurons, animal brains + models</i>). 2. Discuss post-survey questions. (<i>Individual work, bring potential survey questions to class- see instructions below</i>).
Week 4 (Apr 20)	<ol style="list-style-type: none"> 1. Turn in written outlines (<i>Individual work, bring outlines for both presentations</i>). 2. Initial drug presentations and critique (session 1).
Week 5 (Apr 27)	<ol style="list-style-type: none"> 1. Turn in drug information pamphlets. (<i>Individual work, one for each drug presented</i>). 2. Initial drug presentations and critique (session 2).
Week 6 (May 4)	<ol style="list-style-type: none"> 1. Dress rehearsal for high school presentations.
Week 7 (May 11)	<ol style="list-style-type: none"> 1. High School visit #1.
Week 8 (May 18)	<ol style="list-style-type: none"> 1. High School visit #2.
Week 9 (May 25)	Holiday (Memorial Day)
Week 10 (Jun 1)	<ol style="list-style-type: none"> 1. Debriefing the school visits.

Instructions for Drug Presentations

Each student will be presenting two different drugs, during two separate school visits. Groups (student pairs) will be assigned at the beginning of the course and drug categories from the list below will be chosen for each school visit. Each group presentation should be no more than 20 minutes long, with a 5 minute basic introduction to the brain, neurons and addiction, 5 minutes on the drug category, 5 minutes on one specific example drug from this category and 5 minutes on a second specific example drug from the category. The introduction will be presented by both group members while each example drug will be presented individually. Your presentation should be put together using the information you compiled for your written presentation outline (see next section).

Drug categories:

- 1) Opiates
- 2) Hallucinogens
- 3) Stimulants
- 4) Depressants
- 5) Cannabinoids
- 6) Date rape drugs
- 7) Dissociative
- 8) Prescription drugs
- 9) Inhalants

Instructions for Written Assignments

Written presentation outline

The written presentation outline should include all the relevant information that you will need to both create the presentation and to prepare yourself to answer questions from the high school students. In this outline you need to discuss the following areas:

- 1) Drug category background (class of drug, general effects).
- 2) Example drug background (name, chemical structure, discovery).
- 3) Legality of the drug (legal/illegal, drug schedule).
- 4) Acute physiological effects (effect on CNS and/or PNS, toxicity).
- 5) Pharmacokinetics (how and when is drug metabolized, how long does the drug-effect last).
- 6) Mode of action (molecular mechanisms).
- 7) Effects of withdrawal and prolonged abstinence.
- 8) Treatment for addiction (if any).
- 9) References used.

Even though we call this an outline, you can discuss the information in each area in paragraph form. We will be looking for quality of content more than format. This outline should be between 3-5 pages long.

Presentation surveys

A crucial component of our high school presentations is assessment. We would like to know what the impact of our school visits is having on the high school students. To help us assess your presentations, we will ask you to actively participate in creating your own pre- and post-course surveys to generate assessment data. The pre-course survey should let us know what the students know about drugs and the brain before we visit them while the post-course survey should let us know how much they have learned from our visit. After you create your own surveys, we will discuss them in class and collectively decide which ones are the best questions, to be included in the final surveys used in the classroom visits.

For each survey, please come up with 3 multiple choice questions that test the students' knowledge on drugs in general (legality, mode of action, dangers etc), 3 multiple choice questions that test the students' knowledge about the brain and 1 brief open ended question about drugs or the brain where the students are given a chance to elaborate on their knowledge. The multiple choice questions will allow us to easily quantify their knowledge while the open ended questions will give us the students' perception on drugs of abuse and of our school visit.

Drug information pamphlets

As part of the school visits, we will provide the students with informational pamphlets that they can use as a reference and which tells them how and where to find more information on the particular drugs you focus on individually. The pamphlet should be brief (no more than one page, front and back, for each drug) and should summarize your drug presentations. As such, it should include general information on your drug class as well as specific information on your example drug. Be sure to also include links to vetted on-line resources that students can use to find additional information. Feel free to include images, pictures, graphs and any other visual aids that will make your pamphlet more user friendly. Pamphlets should be formatted into three columns so that the page can be folded appropriately. Examples of previous pamphlets will be shown in class.