Neurophysiology of Psychoactive Drugs.
*Implications for Public Health, Policy, and Social Justice.*

Check the headlines! Opiate abuse epidemic. High rates of stimulant use by college students. Marijuana legalization. Mass incarceration of non-violent drug offenders. Wherever you fall on the spectrum of abstinence to addiction, these issues affect you and the people you know. In this course we grapple with hard questions such as the potential public health impacts positive and negative, of the pervasive role of drugs in our society.

In this course, students will learn foundational neuroscientific principles of psychoactive drug mechanisms, harms and benefits, addiction potential, and the intersecting implications for policy.

Through learning the neuroscientific basis of commonly used and abused psychoactive drugs, we will grapple with hard questions and challenge the logic of existing drug policies. Through a critical gaze on the past, we a class we will look toward future reforms that could lead to a healthier and more just society.

**By the end of the course you will be able to:**

- Explain how specific psychoactive drugs affect thinking, behavior, perception, and emotion.
- Identify the potential therapeutic benefits of specific psychoactive drugs
- Identify the potential adverse consequences of psychoactive drug use, abuse, and addiction
- Discuss, support, and/or critique definitions of abuse, dependence, and addiction
- Analyze and critique the cultural and political role that psychoactive drugs play in contemporary contexts

Enrollment: Waitlisted students will be admitted through DuckWeb as other students drop the class. See [http://registrar.uoregon.edu/help/waitlisting](http://registrar.uoregon.edu/help/waitlisting) for more information.
"The vast and cavernous difference between what we know from the most current research on drugs and what drug education and prevention programs teach was obvious."

Buzzed, Kuhn et al.

Required Texts:
- **Title**: Buzzed: Straight Facts about the Most Used and Abused Drugs
  **Author**: Kuhn, Cynthia M.
  **ISBN**: 9780393356465
  **Publisher**: W. W. Norton & Company
  **Edition/Year**: 2019

- **Title**: A Primer of Drug Action: A Concise, Non-Technical Guide to the Actions, Uses, and Side Effects of Psychoactive Drugs
  **Author**: Julien, Robert M.
  **ISBN**: 978-0805071580
  **Publisher**: Holt Paperbacks
  **Edition/Year**: 2001

Additional readings and reviews will be posted to Canvas.

The iClicker2 is required.

Trust:
My goal is to create a learning environment that is accessible and welcoming to all kinds of diversity, including but not limited to race, ethnicity, gender identity, sexual orientation, ability, age, socioeconomic status, religion, language, and culture. Please be respectful of diverse experiences and perspectives in this course, especially when we are discussing potentially sensitive topics – many of which arise in the study of psychoactive drugs. Please reach out to me with any suggestions or concerns related to inclusivity.

Some of the topics we discuss may have special meaning for you and be on-point and informative to the class. This diversity enriches our class discussions. Keep in mind that there is a wide range of experiences, and yours may vary from others. Be patient with your classmates, and be open to their helpful insights that can maximize your learning.

Respect:
It’s my privilege to teach you and I enjoy it. I take my responsibility seriously and do my best to make the material engaging and useful. Please use technology during class for notes only. Other material detracts those around you and detracts from building a learning community. This is a large class and there is a lot of material to cover each time we meet, so try to be on time. If you need to leave early, sit near the back and try to leave discretely to avoid distracting the class. Stay up to date via Canvas if you miss or are late to class. When in class, try to stay engaged with the material rather than just going through the motions. Do the in-class exercises. Ask questions. Take notes. Come to office hours. Try to come prepared to class. Try the assigned readings before class, think about what you read, and bring questions if you have them.

Accountability:
All work submitted in this course must be exclusively your own and produced exclusively for this course. It is plagiarism to submit work in which portions were substantially written by someone acting as a tutor, editor, or work-for-hire. Plagiarism is also the inclusion of someone else’s product, words, ideas, or data as one’s own work. Sources must be acknowledged by the use of complete, accurate, and specific references. Verbatim statements must be enclosed in quotation marks. No resubmissions of papers produced for prior classes are allowed. Written work will be checked electronically for plagiarism using VeriCite; remaining in this course constitutes your consent to this process. If you are in doubt about your work, please consult with us, or seek assistance form the staff of Academic Learning Services (PLC 68; 346-3226). If cheating or plagiarism is discovered, then the university will be notified and appropriate action will be taken, which typically results in a failing grade for the course.

Class attendance is essential to your success in this course. Homework and exams keep you accountable to the readings and lectures. Your essay shows how you have engaged with the material in meaningful ways.
Grading

Exams will assess and improve foundational knowledge gained. The exams will include mainly multiple choice, with some short answer and fill in the blank questions. These exams will allow students to demonstrate breadth of knowledge gained through class, homework, and readings.

Midterm Exams – Although the material in the course builds over time and is considered cumulative, the midterm exams will cover material in the prior weeks. See the schedule.

Final Exam -- The final exam is cumulative and will cover the material from the entire course. Note that the time and date of the final exam are set by the registrar several years in advance. I cannot accommodate early exams for your personal travel.

Term Paper. The paper is due Thursday of Week 9. Submit your paper through Canvas. Do not email your paper to the instructor or GTFs unless you have technical problems with Canvas. Guidelines for project topics, format, expectations, etc. are posted on Canvas. Read these guidelines carefully. Late papers are penalized (reduction in score by 10% per day late).

For this 7-page paper you will have a choice between a journalistic interview prompt, addressing a person’s experience with psychoactive drugs from a cultural context, OR a research paper using evidence to argue for a change to drug policy. Detailed instructions are in Canvas.

Grading Percentages

- 15% — Exam 1
- 15% — Exam 2
- 30% --- Final Exam
- 10% — Term Paper
- 20% — Weekly Homework
- 10% — Classwork: iClicker

Total = 100%

A+ for the top 1 or 2 students.
A  >= 93.9%
A-  >= 90.0%
B+  >= 87.9%
B   >= 83.9%
B-  >= 80.0%
C+  >= 77.9%
C   >= 73.9%
C-  >= 70.0%
D   >= 60.0%
F   <= 59%

Grading cut-offs for the class may be curved upward if necessary. In general the distribution of grades reflects what is typical for 300-level psychology courses.

Objectives of Homework and iClicker Questions:

- Feedback to me about how much you understand, and what concepts need more emphasis in class.
- Motivation to do the reading, show up to class, and pay attention.
- Review concepts and material to help prepare for the exams.

iClicker Questions -- Please remember to bring your iClicker to class beginning Week 1. We will use iClickers for answering in-class questions to review topics and encourage attendance and participation. Each day, about half of the clicker points are awarded regardless of whether you get the answers correct. The remaining half of the clicker points are awarded for correct answers. You must register your Clicker to your UO Canvas account by Week 2 so I can sync the roster. If you change clickers later in the term you must let me know so your new clicker can be added to the course roster manually. I recommend that you put a piece of clear tape over the ID number so that it doesn’t rub off. iClickers are available for purchase at the UO Bookstore or elsewhere online. If cost is an issue, note that the iClicker2 can be sold back to the bookstore. You may also share a clicker with a friend who is not in this course. I usually have a few clickers in case you forget, these are first come first serve. Do not register instructor clickers.

I will drop your two lowest-scoring days of Clicker points, so don’t worry if you are sick or forget your clicker once or twice.

Homework – is an opportunity to test yourself on multiple choice quiz-style questions. They give you an idea of what to expect on exams but are shorter and count for less. Doing well on these doesn’t guarantee you will do well on the exam but it will give you a sense of what you know and what you need to study. There are also short reflective writing assignments that help you reflect on your own learning, or develop your thinking on difficult concepts. The lowest two homework assignments will be dropped. There are no late homeworks or makeups. If you miss one, that will count as your dropped score.
There are many counseling and tutoring resources available to you and I encourage you to seek out any support you need. Did you know about TLC (uoregon.edu) at the UO? They have instructional resources and writing help for students.

Posting slides: The lecture slides will be posted online (Canvas) just before or soon after lectures.

Attendance & Extensions: If a student has an unforeseen exceptional personal or health-related issue, extensions can be offered when accompanied by reasonable documentation. Students with conflicting final exam schedules must alert me as soon as possible. You must notify me of planned university-related absences (such as those by student athletes) as soon as possible.

Community Standards: "The University of Oregon community is dedicated to the advancement of knowledge and the development of integrity. In order to thrive and excel, this community must protect freedom of thought and expression for all its members. The University of Oregon has a long and illustrious history in the area of academic freedom and freedom of speech. A culture of respect that honors the rights, safety, dignity and worth of every individual is essential to preserve such freedom. We affirm our respect for the rights and well-being of all members."

Accessibility: The University of Oregon is working to create inclusive learning environments. If there are aspects of the in this course that result in barriers to your learning and participation, please let me know. You are also welcome to contact the Accessible Education Center (http://aecc.uoregon.edu, formerly Disability Services) in 164 Oregon Hall at 346-1155 or joacec@uoregon.edu

Student Conduct Code: defines academic misconduct. "Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g., quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students’ obligation to clarify the question with the instructor before committing or attempting to commit the act. It is your responsibility to ensure that you do not plagiarize. Additional information about a common form of academic misconduct, plagiarism, is available here. http://researchguides.uoregon.edu/citing-plagiarism.

Workload: There aren’t prerequisites for this course, but some of you have a fair amount of background in the brain, biology, or pharmacology. The first two weeks of the class will be easier for you. For others, there is quite a bit of studying before we can embark on the main content of the course — psychoactive drugs. We all need to have the same vocabulary so we can talk about the biological and behavioral effects of different classes of psychoactive drugs. Please work hard learning the material so you can keep up!

Credits = 4. Generally speaking, each credit is one hour spent in class plus 3 hours outside of class. A 4-credit course would be 120 hours total. Putting in the time does not guarantee that you will learn the material. You need to be sure your studying methods are effective, that you self-assess your own knowledge, and that you address any weaknesses by seeking out assistance in a timely manner. This course is not graded on a curve (though I reserve the right to curve when it benefits students). If you do the readings on time, attend lectures, take notes, ask questions...
<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Date</th>
<th>Nickname</th>
<th>Topic</th>
<th>Buzzed</th>
<th>Julien's Primer</th>
<th>Assignments Due @ 4 pm</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1/7/20</td>
<td>Body</td>
<td>Pharmacokinetics</td>
<td>Buzzed Ch 14: Drug Basics</td>
<td>Ch 1: Pharmacokinetics</td>
<td>Read syllabus, get books, register your iclicker</td>
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<tr>
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<td>2</td>
<td>1/9/20</td>
<td>Receptors</td>
<td>Pharmacodynamics</td>
<td>Ch 2: Pharmacodynamics</td>
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<td><strong>Homework 1 Due</strong></td>
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<td></td>
<td>3</td>
<td>1/14/20</td>
<td>Brain 1</td>
<td>Brain Basics</td>
<td>Buzzed Ch 13: Brain Basics</td>
<td>Ch 3: The Neuron</td>
<td><strong>Deadline to register iclicker in Canvas</strong></td>
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<td>4</td>
<td>1/16/20</td>
<td>Brain 2</td>
<td>Brain cont'd, &amp; Alcohol intro</td>
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<td><strong>Homework 2 Due</strong></td>
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<td>5</td>
<td>1/21/20</td>
<td>Downers 1</td>
<td>Alcohol, Inhalants</td>
<td>Buzzed Ch 1: Alcohol, Ch 6: Inhalants</td>
<td>Ch 4: Alcohol &amp; Inhalants</td>
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<td>6</td>
<td>1/23/20</td>
<td>Downers 2</td>
<td>Anxiolytics</td>
<td>Ch 10: Sedatives</td>
<td>Ch 6: Anxiolytics (skip 2nd gen)</td>
<td><strong>Homework 3 Due</strong></td>
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<td>7</td>
<td>1/28/20</td>
<td>Uppers 1</td>
<td>Classic Stimulants</td>
<td>Buzzed Ch 12: Stimulants</td>
<td>Ch 7: Cocaine &amp; Amphetamines</td>
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<td>8</td>
<td>1/30/20</td>
<td>EXAM 1</td>
<td>Exam 1 Covers Weeks 1-4 (including 4)</td>
<td>In class Exam 1</td>
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<td>9</td>
<td>2/4/20</td>
<td>Uppers 2</td>
<td>Caffeine</td>
<td>Buzzed Ch 2: Caffeine</td>
<td>Ch 8: Caffeine</td>
<td><strong>Homework 4 Due</strong></td>
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<td>10</td>
<td>2/6/20</td>
<td>Uppers 3</td>
<td>Nicotine</td>
<td>Buzzed Ch 8: Nicotine</td>
<td>Ch 8: Nicotine</td>
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<td>11</td>
<td>2/11/20</td>
<td>Painkillers 1</td>
<td>Opiates</td>
<td>Buzzed Ch 9: Opiates</td>
<td>Ch 9: Opioids</td>
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<td>12</td>
<td>2/13/20</td>
<td>Painkillers 2</td>
<td>Addiction</td>
<td>Ch 15: (Addiction)</td>
<td>Ch 13: Topics</td>
<td><strong>Homework 5 Due + Project Proposal</strong></td>
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<td>13</td>
<td>2/18/20</td>
<td>Weed</td>
<td>Marijuana</td>
<td>Buzzed Ch 7: MJ; Ch 16: Legal</td>
<td>Ch 11: THC</td>
<td><strong>Review for Peers Due</strong></td>
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<td>14</td>
<td>2/20/20</td>
<td>EXAM 2</td>
<td>Exam 2 Covers Weeks 5-7 (including 7)</td>
<td>In class Exam 2</td>
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<td>15</td>
<td>2/25/20</td>
<td>Tripping 1</td>
<td>Hallucinogens: 5-HT Psychedelics (LSD, Psilocybin, Mescaline)</td>
<td>Buzzed Ch 4: Hallucinogens</td>
<td>Ch 12: Psychedelics</td>
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<td>16</td>
<td>2/27/20</td>
<td>Tripping 2</td>
<td>Hallucinogens: Catechols/Phenethylamines (MDMA)</td>
<td>Buzzed Ch 3: Hallucinogens</td>
<td>Ch 12: Psychedelics</td>
<td><strong>Homework 6 Due</strong></td>
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<td>17</td>
<td>3/3/20</td>
<td>Tripping 3</td>
<td>Hallucinogens: Dissociatives (Ketamine, PCP)</td>
<td>Review Ch 4: Hallucinogens</td>
<td>Ch 12: Psychedelics</td>
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<td>18</td>
<td>3/5/20</td>
<td>Synthetics</td>
<td>Modern Synthetics: Bathsalts (Cathinones), Spice (Cannabinoids)</td>
<td>Review Ch 12: Cathinones</td>
<td>See Readings on Canvas</td>
<td><strong>Term Project Due</strong></td>
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<td>19</td>
<td>3/10/20</td>
<td>Meds</td>
<td>Antipsychotics &amp; Antidepressants</td>
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<td>Ch 15, 16, 17, skim 19</td>
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<td>20</td>
<td>3/12/20</td>
<td>Wrapping up</td>
<td>Legalization debate &amp; discussion, Review Discussion</td>
<td>&quot;Just Say Know&quot; &amp; &quot;Test Your Drug Knowledge&quot;</td>
<td>See Readings on Canvas</td>
<td><strong>Homework 7 Due</strong></td>
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</tbody>
</table>
|      | 21  | 12:30 Wed, March 18 | Final Exam** Covers Weeks 1-10 | Cumulative Final Exam | | | **Finals week is considered part of the term. I cannot offer early exams to accommodate personal travel.**