I. Course Summary
This course reviews mechanisms of drug action. Students will identify behavioral effects of substance use and learn to distinguish those effects from neuropathology and behavior that results from environmental contingencies. The course surveys topics including: drug classes, basic behavioral pharmacology, applied behavioral pharmacology, commonly used medications in the treatment of ASD and developmental disabilities, and the relationship between biomedical and behavioral treatment.

II. Format
Course meetings will consist of three parts: 1) Quiz, 2) Clarification of issues unclear from the reading, 2) Discussion. Students are expected to come to class thoroughly prepared to discuss the topics of the readings, and will be graded on participation.

III. Materials
Readings


http://doi.org/10.1016/j.mayocp.2012.04.017

**Videos**

Anderson (2013). Your brain is more than a bag of chemicals. (15 min 18 s)  
https://www.ted.com/talks/david_anderson_your_brain_is_more_than_a_bag_of_chemicals?utm_source=tedcomshare&utm_medium=referral&utm_campaign=tedspreadd

Brachman (2016). Could a drug prevent depression and PTSD? (18 min 23 s)  
https://www.ted.com/talks/rebecca_brachman_could_a_drug_prevent_depression_and_ptsd?utm_source=tedcomshare&utm_medium=referral&utm_campaign=tedspreadd

Guzman (2017). First vs. second generation antipsychotics. (6 min)  

Saks (2012). A tale of mental illness- from the inside. (14 min 45 s)  

Walters (2011). On being just crazy enough. (5 min 44 s)  

**Online Tutorial**


**IV. Requirements, Expectations, and Grading Criteria**

**Class Participation**

Participation in class will be assessed as follows:

- 0 points: absent
- 1 point: attended class but was not actively engaged, or engaged in activities unrelated to class (e.g., sleeping, going on Facebook, texting, checking email, etc.)
- 2 points: attended class and was somewhat engaged, contributed 1-2 times to discussion.
- 3 points: active participation, operationally defined as contributing frequently to class discussion, demonstrating entry-level comprehension of the assigned readings and activities, presenting information/posting questions to colleagues that facilitate discussion.
- 4 points: exceptional participation, operationally defined as making an especially insightful/profound contribution to the class discussion, demonstrating high-level comprehension of the assigned readings, and/or presenting information/posing questions to colleagues that facilitate excellent discussion.

A total of 30 points can be earned for participation across 12 class meetings in which participation will be assessed.

**Class Participation = 30 points**

Note: It is expected that class participation grades and quizzes should prepare you to participate in a substantive way during class meetings. However, if this is not the case, an additional grading component (e.g., discussion questions) may be added.

**Quizzes**
A 15-point quiz will be given at the beginning of most classes. The quiz will contain a variety of question formats (multiple choice, T/F, short answer) and will vary week to week. You may prepare one 8.5 x 11” sheet of standard white paper with notes and summary of the assigned readings to use as a reference during the quiz (all other reading materials and notes will be unavailable during the quiz). The quizzes will be timed and must be completed within 15 minutes. If you arrive late to class, you will not be given extra time to complete the quiz. Quizzes will consist of approximately 50% new material (i.e., material from the assigned readings) and 50% old material (i.e., material previously covered in class). Your lowest quiz score will be dropped.

**10 Quizzes (11 total, 1 dropped) at 15 points each = 150 points**

**Optional Cumulative Final**
You will have the opportunity to take an optional cumulative final exam covering all the content for the course. The optional final may replace your total quiz score (i.e., the exam will be worth 150 points total), but cannot “hurt” your grade.

**Research Proposal**
You will write a brief research proposal in which you will design and describe a study aimed at answering an original research question in behavioral pharmacology. The proposal should include the introduction, method, results, & discussion sections as well as graphed hypothetical data. The paper must conform to APA format. You will present your proposed study to the class at the end of the semester.

**Research Proposal = 50 points**

**Presentation = 20 points**
**Attendance Policy**
As the function of the quiz to is ensure that you are prepared to meaningfully contribute to the class, absence from class will result in a 0 quiz grade. This can be avoided only by prearrangement with the instructor. Absence is defined as missing 25% or more of any class period.

**V. Grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>30</td>
</tr>
<tr>
<td>Quizzes</td>
<td>150</td>
</tr>
<tr>
<td>Optional Cumulative Final</td>
<td>Replaces quiz total</td>
</tr>
<tr>
<td>Research Proposal</td>
<td>50</td>
</tr>
<tr>
<td>Presentation</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td><strong>250</strong></td>
</tr>
</tbody>
</table>

Letter grades will be assigned as follows.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points Needed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>223-250 points</td>
<td>89.5% or higher</td>
</tr>
<tr>
<td>B</td>
<td>198-222 points</td>
<td>79.5-89.4%</td>
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<tr>
<td>C</td>
<td>173-197 points</td>
<td>69.5-79.4%</td>
</tr>
<tr>
<td>F</td>
<td>172 points or fewer</td>
<td>69.4% or below</td>
</tr>
<tr>
<td>Class Number</td>
<td>Date</td>
<td>Topic</td>
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<td>--------------</td>
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<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>1/24</td>
<td>Introduction and basic terminology</td>
</tr>
<tr>
<td>2</td>
<td>1/31</td>
<td>Off-label drug use; Stimulants, benzodiazepines, SSRI’s and other antidepressants</td>
</tr>
<tr>
<td>3</td>
<td>2/7</td>
<td>Typical and atypical antipsychotics, mood stabilizers, misc. other medications</td>
</tr>
<tr>
<td>4</td>
<td>2/14</td>
<td>Drug effects on classical and operant conditioning</td>
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<tr>
<td>5</td>
<td>2/21</td>
<td>Introduction to drugs as stimuli</td>
</tr>
<tr>
<td>6</td>
<td>2/28</td>
<td>Drugs as reinforcing stimuli: self-administration and delay discounting</td>
</tr>
<tr>
<td>7</td>
<td>3/7</td>
<td>Contingency management</td>
</tr>
<tr>
<td>No class</td>
<td>3/14</td>
<td>Spring Break</td>
</tr>
<tr>
<td>8</td>
<td>3/21</td>
<td>Research in Applied Bpharm: Dose effects, How to do research in this area</td>
</tr>
<tr>
<td>9</td>
<td>3/28</td>
<td>Research in Applied Bpharm: Null Results</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Assignment</td>
</tr>
<tr>
<td>------</td>
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<td>------------</td>
</tr>
<tr>
<td>10</td>
<td>4/4</td>
<td>Research in Applied Bpharm: Drug effects on reinforcers and behavioral function</td>
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<tr>
<td>11</td>
<td>4/11</td>
<td>Research in Applied Bpharm part 4: Drugs vs. behavioral treatments</td>
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<tr>
<td>12</td>
<td>4/18</td>
<td>Debate on the role of medication in behavioral treatment</td>
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<tr>
<td>13</td>
<td>4/25</td>
<td>Presentations</td>
</tr>
<tr>
<td>14</td>
<td>5/1</td>
<td>Optional Final Exam</td>
</tr>
</tbody>
</table>

**Academic Honor Code Reaffirmation**


Membership in the student body of Rollins College carries with it an obligation, and requires a commitment, to act with honor in all things. The student commitment to uphold the values of honor - honesty, trust, respect, fairness, and responsibility - particularly manifests itself in two public aspects of student life. First, as part of the admission process to the College, students agree to commit themselves to the Honor Code. Then, as part of the matriculation process during Orientation, students sign a more detailed pledge to uphold the Honor Code and to conduct themselves honorably in all their activities, both academic and social, as a Rollins student. A student signature on the following pledge is a binding commitment by the student that lasts for his or her entire tenure at Rollins College.

The development of the virtues of Honor and Integrity are integral to a Rollins College education and to membership in the Rollins College community. Therefore, I, a student of Rollins College, pledge to show my commitment to these virtues by abstaining from any lying, cheating, or plagiarism in my academic endeavors and by behaving responsibly, respectfully and honorably in my social life and in my relationships with others. This pledge is reinforced every time a student submits work for academic credit.
as his/her own. Students shall add to the paper, quiz, test, lab report, etc., the handwritten signed statement:

"On my honor, I have not given, nor received, nor witnessed any unauthorized assistance on this work."

Material submitted electronically should contain the pledge; submission implies signing the pledge.

**Credit Hour Statement**

**Policy AC 2000: adopted 4/7/16**

Rollins College offers four-credit-hour courses that provide three (50-minute) hours of direct or indirect instructional contact. The value of four credit hours reflects the substantial individual attention each student receives from instructors as well as additional out-of-class activities. Faculty require that students undertake at least 7.5 (60-minute) hours of outside work per week, averaged over the course’s duration and equaling two and one-half (2.5) 60-minute hours of outside work for every one (50 minute) hour of scheduled class time. In this course, the additional outside-of-class expectations include reading the assigned articles, completing online tutorials and watching videos, studying for quizzes, and preparing a research proposal and presentation.

**Disability Services**

Rollins College is committed to equal access and inclusion for all students, faculty and staff. The Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 create a foundation of legal obligations to provide an accessible educational environment that does not discriminate against persons with disabilities. It is the spirit of these laws which guides the college toward expanding access in all courses and programs, utilizing innovative instructional design, and identifying and removing barriers whenever possible.

If you are a person with a disability and anticipate needing any type of academic accommodations in order to fully participate in your classes, please contact the Disability Services Office, located in the Mills Memorial Building, Room 217, as soon as possible. You are encouraged to schedule a Welcome Meeting by filling out the “First Time Users” form on the website: [http://www.rollins.edu/disability-services/](http://www.rollins.edu/disability-services/) and/or reach out by phone or email: 407-975-6463 or Access@Rollins.edu.

All test-taking accommodations requested for this course must first be approved through the Disability Services Office (DSO) and scheduled online through Accommodate at least 72 hours before the exam. Official accommodation letters must be received by and discussed with the faculty in advance. There will no exceptions given unless previously approved by the DSO with documentation of the emergency situation. We highly recommend making all testing accommodations at the beginning of the semester. DSO staff are available to assist with this process.

**Title IX Statement (updated 7/12/16)**
Rollins College is committed to making its campus a safe place for students. If you tell any of your faculty about sexual misconduct involving members of the campus community, your professors are required to report this information to the Title IX Coordinator. Your faculty member can help connect you with the Coordinator, Oriana Jiménez (TitleIX@rollins.edu or 407-691-1773). She will provide you with information, resources and support. If you would prefer to speak to someone on campus confidentially, please call the Wellness Center at 407-628-6340. They are not required to report any information you share with the Office of Title IX.

Sexual misconduct includes sexual harassment, stalking, intimate partner violence (such as dating or domestic abuse), sexual assault, and any discrimination based on your sex, gender, gender identity, gender expression or sexual orientation that creates a hostile environment. For information, visit [http://www.rollins.edu/titleix/](http://www.rollins.edu/titleix/)

*This syllabus is subject to change. Any changes will be announced in advance. You are responsible for regularly checking Blackboard for announcements.*