

Syllabus - Spring 2018

PHCO 728: Neuropharmacology of Alcohol and Substance Abuse (3 cr)

Instructor: Dr. Joyce Besheer

Time: Wednesdays 1 – 3pm

Location: TBD

Objective: This course will survey key concepts and recent literature related to the neuropharmacology of alcohol and other drugs of abuse. The first half of the semester will address a variety of topics such as alcohol pharmacology, alcohol actions on signaling pathways, mechanisms of alcohol drinking/reinforcement/relapse processes, alcohol dependence and withdrawal, fetal alcohol spectrum disorders and pharmacotherapy for alcoholism. For the first part of the semester, each class will involve a presentation by a faculty member (first part of the class) and discussion of a research article selected by the presenter (second part of the class). Extensive student participation will be expected especially during the article discussion. The second half of the semester will focus on other drugs of abuse to be selected by the students participating in the class. Each student will give a presentation based on the assigned drug of abuse. This course is intended to provide students with a broad understanding of the neuropharmacology of abused drugs and to help with the development of critical thinking skills in evaluation of the scientific literature. The format of this course is designed to be highly interactive and will require active student participation.

Assignments: 1) Each week, students will be required to read a review or research article selected by the presenter of the week. 2) Each student will give a presentation regarding the neuropharmacology and behavioral consequences of an abused substance and lead a discussion on a related paper (time permitting). To avoid overlap, each student will submit a rank ordered list of 3 drugs of abuse for the presentation/paper topic and based on this list Dr. Besheer will determine which student will present which drug. A 2-page paper will be due on May 2 related to the student presentation.

Grades: Student grades will be determined by the quality and extent of participation in discussions, quality of the student presentation and the final paper.

Speaker Schedule:

Date	General Topic	Instructor
Jan 10	Introduction to the course	Besheer
	Self-administration/drinking models and mechanisms	
Jan 17	Neuropharmacology of alcohol	Morrow
Jan 24	Brain innate immune gene activation and ethanol	Crews
Jan 31	Relapse models and mechanisms	Besheer
	<i>List of potential drugs for presentation/paper due (we'll do this in class)</i>	
Feb 7	Behavioral Flexibility and Addiction	Robinson

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Feb 14	Title TBD	McElligott
Feb 21	Pharmacotherapy of alcoholism	Garbutt
Feb 28	Alcohol Withdrawal Clinical Considerations and Animal Modeling	Knapp
Mar 14	Spring Break – no class	
Mar 21	Prenatal drug exposure: Developmental neurotoxicology and pathogenic mechanisms	Parnell
Mar 28	Title TBD	Hodge
Apr 4	Student Presentations	
Apr 11	Student Presentations	
Apr 18	Student Presentation	
Apr 25	Student Presentations	
May 2	<i>Papers due</i>	
