

Neuropsychopharmacology
830:412

Fall 2015

Class Meeting Times: 5:00-6:20, Tuesday/Thursday
Location: SEC 207

Prerequisite: Physiological Psychology (830:313)

Instructor: Benjamin Samuels, Ph.D., Assistant Professor of Psychology

Office Location: TBD

Office Hours: TBD

Email: ben.samuels@rutgers.edu

Course Textbook

Essential Psychopharmacology: Neuroscientific Basis and Practical Applications, 4th Edition, by Stephen M. Stahl; Cambridge University Press, 2013

Course Description

This course will focus on the causes and treatment of neuropsychiatric disorders including mood disorders (such as depression and anxiety), schizophrenia, and substance abuse. More specifically, we will pay close attention to the neurochemical and molecular biological mechanisms underlying these disorders and how drugs are used to affect different forms of chemical transmission and communication of information in the brain.

Learning Goals

Students should come away with an understanding of the following:

1. The neurochemistry and molecular biology underlying neuronal communication and basic neuroanatomy
2. The neurobiological and neurochemical basis of psychiatric disorders
3. How clinically used therapeutic drugs alter behavior
4. Issues involved in deciding which drugs are effective for treating psychiatric disorders
5. The importance of behavioral neuroscience research in humans and laboratory animals to understanding abnormalities in behavior

Exams

There will be three exams (two midterms and one final). Exams 1 and 2 will be worth 30% of the total grade. The Final Exam will be cumulative and will be worth 40% of the total grade. Exams will be a combination of multiple choice questions and written answers.

Makeup Exams

After providing acceptable evidence for missing a scheduled exam, a student must take the makeup ***within three weekdays*** of missing the exam. Otherwise, the makeup will have to be taken between the final class and the Final Exam. There will be no makeup exams for Exams 1 and 2 after the Final. If you miss the Final Exam for an acceptable reason, you must take this ***within 48 hrs***. If you have athletic or religious obligations that will occur on any of the scheduled exams, anticipate the interruption and let me know in advance!

Course Content and Skipping Classes

The course and exams will be a mix of material from the textbook and additional information supplied in lecture. I may also provide supplemental readings. The content of the lectures will not always correspond to the textbook. The sections of the textbook not covered in lecture will not be required for exams, but are strongly suggested for a fuller understanding of the topic. Slides will be posted on the sakai website for the course.

Grading System

Students will need to achieve predetermined cut-off points for grades of A, B+, and so on.

Cut-off points will be as follows:

A: 90-100, B+: 85-89.9, B: 75-84.9, C+: 70-74.9, C: 60-69.9, D: 50-59.9, F: <50

Classes

There will be no classes on the following dates:

Tuesday, September 8 (Monday classes on this date)

Tuesday, October 20

Thursday, November 26 (Happy Thanksgiving)

Lecture Topics

Section 1 (Total Lectures: 7)

Reading: Chapters 1-3

Topics Covered Prior to Exam 1:

- 1: Neurons (Morphology and Relevance to Function)
- 2: Basic Neuroanatomy
- 3: Neurotransmitters, Receptors, and Intracellular Signaling
- 4: Drug Actions

EXAM 1: Tuesday, September 29 **30% of Final Grade**

Section 2 (Total Lectures: 9)

Reading: Chapters 4-7

Topics Covered Prior to Exam 2:

- 5: Neurobiological Basis of Psychiatric Disease
6: Psychotic Disorders (Schizophrenia)
7: Mood Disorders (Depression)

EXAM 2: Thursday, November 5 **30% of Final Grade**

Section 3 (Total Lectures: 9)

Reading: Chapters 8-9, 12, 14

Topics Covered Prior to Final Exam:

- 8: Anxiety, Fear, and Stress
9: ADHD
10: Impulsivity and Compulsivity
11: Addiction and Substance Abuse

FINAL EXAM: Date TBD **40% of Final Grade**