Professor: Eric A. Fertuck, Ph.D.
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Telephone: 212.650.5847
Day & Time: Tuesday: 9:45-11:40am, NAC Room 8/132
Office Hours: By appointment

Course Description:
This course aims to provide an exposition of research and theory in the biological bases of normal and abnormal behavior. A survey of literature will span from nerve cells, the organization and functioning of the nervous system, to the neurobiological systems that underlie sensation, motor behavior, emotion, cognition, and self-other representation, and social behavior. We will also integrate understanding of altered behavioral processes of brain-damaged and psychiatric patients with knowledge of basic neuronal and neurobiological processes.

Each week, students will be required to read a chapters, case studies, and articles dealing with a specific topic in the biological basis of behavior. Participation will be encouraged through the formal generation of weekly discussion points based on the readings and the assignment of student presentations linking neurobiological processes to clinical phenomena.

Since much of academic life consists of presenting your findings at conferences, the class will include mini-conference sessions consisting of powerpoint presentations of your independent review of how a basic neurobiological processes that you are studying can inform understanding of a clinical phenomenon in clinical psychology. Based on the critical feedback you receive, a review paper is due by the end of the semester.

Because of this reliance on group participation, it will be essential that students read papers and chapters before coming to class. This will enhance the discussion and learning experience for all.

Course Objectives:
This course is designed to:

(1) Provide students with an overview of brain organization and functional neuroanatomy
Survey the biological processes that underlie sensation, perception, memory, emotion, affiliation, reproductive behavior, and psychopathology.

Integrate basic biological processes with single case studies in neurology and clinical psychology.

Integrate understanding of neurobiological processes into understanding normal and abnormal mental and behavioral functioning.

Requirements and Grading:

Student Performance Evaluation:

A. Class Presentation (30% of Grade): 20 minute in-class presentation relating a neurobiological process to a clinical phenomenon or treatment. Starting in the 5th week of the class, 1-2 students per week will give a 20 minute presentations on a topic of their choice. The topic must be germane to the content of the class and should include a theme relevant to clinical psychology. Topics need to be approved by the instructor prior to preparing the presentation.

B. Paper (40% of Grade): A 1500-2500 word (not including references, tables, or figures) review based on your class presentation that incorporates the feedback you received during your presentation. APA style. Due Friday, Dec. 10.

C. Class Participation and Discussion Points (30% of Grade): To promote engagement with the readings and topics, weekly discussion points and questions are to be emailed to instructor before class and in class participation. By Monday morning the day before the Tuesday lecture, email the instructor one discussion point for every reading of that week. The instructor will review the discussion points and use them to guide the content of the class the following day.

Required Texts:


Weekly Reading Assignments and Class Topics:

Week 1 (Sept. 7). Overview of the Relationship Between Mind, Brain, and Body.
2. Chapter 9. *The Brain that Changes Itself*.

**Week 2 (Sept. 14). The Structure and Functions of Cells in the Nervous System.**

2. Chapter 10. Doidge, N. *The Brain that Changes Itself*.

**Week 3 (Sept. 21). The Structure of the Nervous System.**


**Week 4 (Sept. 28). Psychopharmacology. (Guest Lecture: Mallay Occhiogrosso, MD)**

1. Film: *Awakenings* (1990). To be seen before class.

**Week 5 (Oct. 5) Sensation and The Visual System**


**Week 6 (Oct. 12). Motor Behavior**


**Student Presentations**

**Week 7 (Oct. 19). Memory and the Brain**

2. Film: *Memento* to be seen before class

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### Student Presentations

**Week 8 (Oct. 26). Biology of Stress and Arousal**

3. Chapter 17. *Physiology of Behavior*. Anxiety Disorders, Autistic Disorders, ADHD, and Stress Disorders

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### Student Presentations

**Week 9 (Nov. 2) Motivation/Reward and the Brain and Body**

2. Doidge, N. *The Brain that Changes Itself*. Chapter 11

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### Student Presentations

**Week 10 (Nov. 9) Functional Imaging and the Neural Circuitry of Attention and Decision Making (Guest Lecture: Jack Grinband, Ph.D.)**

2. Chapter 5. *Physiology of Behavior*. Methods and Strategies of Research

**Week 11 (Nov. 16) Language and Aphasias**

1. Sacks, O. *The Man Who Mistook His Wife for A Hat*. Chapter 9 (“The President’s Speech”)
2. Doidge, N. *The Brain that Changes Itself*. Chapter 2

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### Student Presentations

**Week 12 (Nov. 23) Emotion and the Brain (Guest Lecture: Margaret Zellner, Ph.D.)**


### Student Presentations

**Week 13 (Nov. 30) Behavioral and Psychiatric Genetics (Guest Lecture: Scott Wilson, Ph.D.)**


**Week 14 (Dec. 7) The Social Brain: Sexuality, Affiliation, and Social Cognition**

Readings:

### Student Presentations

**Week 15 (Dec. 14) Review and Synthesis**

Readings:

### Student Presentations