Biological Basis of Behavior
PSY 702
Fall 2015

Time: Tues 1.30pm – 4.10pm
Room: Robinson A245
Instructor: James Thompson
Room 2056
David King Hall
email: jthompz@gmu.edu tel: 703-993-9356

Office Hours: Tues 11.00pm – 12.00pm or by appointment (email only)

Required Reading:
Kolb, B. & Wishaw, I.Q. (2015). *Fundamentals of Human Neuropsychology*, 7th Edition. Worth.

Additional readings will be distributed via Blackboard.

Objectives: The objective of this class is to further your understanding of the relationship between brain and behavior. We will examine the role of the brain as the basis of human behavior through the lens of Neuropsychology, which seeks to understand brain-behavior relationships in order to identify impairments in behavior, cognition, emotion, and motor function that might arise from brain injury or disease; and b) inform psychological theory from knowledge gained from understanding the functioning of healthy and injured or diseased brain. At the end of this course I hope you will have learned the following:

1. How neurons work.

2. The broad anatomy of the human brain, especially the cerebral cortex.

3. An understanding of the relationship between brain structure/function and a number of psychological processes.

4. Have a basic understanding of the relationship between brain function and neurological and mental illness

Format: Classes will consist of a combination of lectures, student presentations, and in-class discussion. I expect that much of the material covered in the course will be new to you, keeping up with background material will be critical. Prerequisites for the course are: you should have a basic (undergraduate-level) knowledge of cognitive psychology and neuroscience (or physiological psychology), or have willingness to cover this ground through your own reading; and willingness to participate in class discussion.

Assessment: Assessment will consist of four take-home quizzes (40%), class participation (20%), and a final paper (40%).

Take-home Quiz: The take home quizzes will consist of short answer items based on material covered in class and in the readings.

Class Participation: You are expected to have **read the readings** before class and come to class **prepared to discuss the topics covered**.

Paper: The final paper will consist of a 3000 word essay based on topics covered in class and the broader neuropsychology literature. Essay topics will be distributed in class.

Important Dates: Last day to add: Sep 8th. Last day to drop Oct 2nd. Labor Day Sep 7th. Thanksgiving Nov 25th- Nov 29th.

Grades: A (100-90); B (89-80); C (79-70); D (69-60); F (below 59
Attendance: While you will not be graded on attendance, this is a graduate-level course and you are expected to attend each week.

Honor Code: All exams must follow the guidelines of the GMU Honor Code. George Mason University has an Honor Code, which requires all members of this community to maintain the highest standards of academic honesty and integrity. Cheating, plagiarism, lying, and stealing are all prohibited. All violations of the Honor Code will be reported to the Honor Committee. See honorcode.gmu.edu for more detailed information. Students may consult with other students and use books, notes, and other sources in preparing for exams. However, when taking exams, no books, notes, or student interaction will be allowed. Cheating and plagiarism of any sort will not be tolerated.

Students with Disabilities: If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center C(DRC) at 703-993-2474. All academic accommodations must be arranged through that office.

SCHEDULE

Sep 1		Introductions, Origins of Human Brain & Behavior	**Kolb & Wishaw Ch 2**
Sep 8		Nervous System Organization ***Supplemental Reading:*** Gawande, A. (2008). The Itch's Mysterious Power. *The New Yorker, June 30*	**Kolb & Wishaw Ch 3**
Sep 15		Structure and Electrical Activity of Neurons	**Kolb & Wishaw Ch 4**
Sep 22	**Quiz**	Communication between Neurons	**Kolb & Wishaw Ch 5**

Sep 29		Effects of Drugs and Hormones on Behavior	**Kolb & Wishaw Ch 6**
Oct 6		Organization of Sensory and Motor Systems	**Kolb & Wishaw Ch 8-9**
Oct 13	**Quiz**	Principles of Neocortical Function	**Kolb & Wishaw Ch 10**
Oct 20		Occipital & Parietal Lobes	**Kolb & Wishaw Ch 13-14**
Oct 27		Temporal Lobes	**Kolb & Wishaw Ch 15**
Nov 3	**Quiz**	Frontal Lobes	**Kolb & Wishaw Ch 16**
Nov 10		Emotions and the Social Brain	**Kolb & Wishaw Ch 20**
Nov 17		Psychiatric and Related Disorders	**Kolb & Wishaw Ch 27**
Nov 24		**THANKSGIVING**	
Dec 1	**Quiz**	Neurodevelopmental Disorders	**Kolb & Wishaw Ch 24**
Dec 8	**Final Paper**	Plasticity, Recovery, and Rehabilitation	**Kolb & Wishaw Ch 25**