

The Emotional Brain – Spring 2018

Structure:

Faculty Lectures will take place during the first 7 classes. Read the papers and participate in discussion.

Midterm Exam will be held on March 19 and will consist of multiple-choice questions taken from the readings and lectures up to that point.

Student Presentations will begin on Mar 26. Each student will be responsible for one presentation during the semester. We will have 3 presentations each week. Each should last about 20 min, followed by discussion. Each student has been randomly assigned to papers (see below). If you don't like your time or topic, find someone to swap with and let me know.

Class Participation All class members are required to read the assigned papers and participate in the discussion of the papers. Asking questions about what is in the paper indicates you did not read the paper. Ask questions that dig deeper.

Term Paper will be due May 14 (or earlier). Papers should be 5 double-spaced pages, with Times Roman/Cambria 12 point-font. MORE DETAILS LATER.

Grading:

*Student Presentation 1/3

*Midterm (multiple-choice) 1/3

*Term Paper 1/3

*Class participation will be used to add or subtract from your final grade. Lots of good participation turns a course grade of B to a B+ while sparse participation turns a B into a B-

CLASS CALENDAR

Jan. 22	Introduction - JL will present
Jan. 29	History of the Emotional Brain: - JL will present
Feb. 5	Fear and the Amygdala- JL will present
Feb. 12	Rethinking the Emotional Brain - JL will present
Feb. 19	President's Day (Holiday)
Feb 26	A Philosophical Perspective on Emotional Consciousness – JL and Richard Brown
Mar 5	Human Affective Neuroscience – guest presentation (Alexandra Cohen)
Mar 12	Spring Break
Mar 19	Mid-term exam (20 minutes); Deep History of Ourselves- JL will present
Mar 26	Memory and Emotion - student presentations
Apr 2	Stress - student presentations
Apr 9	Reward and Addiction - student presentations
Apr 16	no class - JL away
Apr 23	Eating Disorders - student presentations
Apr 30	Depression - student presentations
May 7	Anxiety - student presentations
May 14	Term Paper Due

ASSIGNMENTS FOR IN CLASS PRESENTATIONS

Mar 26 –Sahaana, Hongfei, Olga

Apr 2 – Aleksander, Rohan, Olamide

Apr 9 – Rob, Alexander, Victoria

Apr 23 – Saurab, Allie, Abbie

Apr 30 - Mahdi, Konstandina, Sara

May 7 –Alissa, Anouck

READINGS

Jan. 22 Introduction —JL will present

Jan. 29 History of the Emotional Brain—JL will present
Emotional Brain Chapter 3 – Blood, Sweat, and Tears
Emotional Brain Chapter 4 – The Holy Grail
Emotional Brain Chapter 5 – The Way Were, p. 104-125

Feb. 5 Fear and the Amygdala—JL will present
Anxious Chapter 4 – The Defensive Brain
Adolphs R (2013) The biology of fear. Curr Biol 23:R79-93.

Feb. 12 Rethinking the Emotional Brain—JL will present
LeDoux J (2012) Rethinking the emotional brain. Neuron 73:653-676.

Feb. 26 A Philosophical Perspective on Emotional Consciousness
LeDoux JE, Brown R (2017) A higher-order theory of emotional consciousness. Proc Natl Acad Sci U S A 114:E2016-E2025.
Anxious Chapter 6 – Let's Get Physical

Mar. 5 Human Affective Neuroscience—guest presentation
Phelps EA (2006) Emotion and cognition: insights from studies of the human amygdala. Annu Rev Psychol 57:27-53.
Hartley CA, Phelps EA (2010) Changing fear: the neurocircuitry of emotion regulation. Neuropsychopharmacology 35:136-146.

Mar. 19 Deep History of Ourselves
No readings

Mar. 26 Memory and Emotion
Hirst W, Phelps EA (2016) Flashbulb Memories. Curr Dir Psychol Sci 25:36-41. **(SAHAANA)**
McGaugh JL (2000) Memory--a century of consolidation. Science 287:248-251. **(HONGFEI)**
Alberini CM, LeDoux JE (2013) Memory reconsolidation. Curr Biol 23:R746-750. **(OLGA)**

Apr. 2 Stress
McEwen BS, Bowles NP, Gray JD, Hill MN, Hunter RG, Karatsoreos IN, Nasca C (2015) Mechanisms of stress in the brain. Nat Neurosci 18:1353-1363. **(ALEKSANDER)**
Krugers HJ, Joels M (2014) Long-lasting Consequences of Early Life Stress on Brain Structure, Emotion and Cognition. Curr Top Behav Neurosci 18:81-92. **(ROHAN)**
Sorrells SF, Caso JR, Munhoz CD, Sapolsky RM (2009) The stressed CNS: when glucocorticoids aggravate inflammation. Neuron 64:33-39. **(OLAMIDE)**

- Apr. 9 Reward and Addiction**
 Everitt BJ, Robbins TW (2016) Drug Addiction: Updating Actions to Habits to Compulsions Ten Years On. *Annu Rev Psychol* 67:23-50. **(ROB)**
 Nestler EJ (2014) Epigenetic mechanisms of drug addiction. *Neuropharmacology* 76 Pt B:259-268. **(ALEXANDER)**
 Xue YX, Luo YX, Wu P, Shi HS, Xue LF, Chen C, Zhu WL, Ding ZB, Bao YP, Shi J, Epstein DH, Shaham Y, Lu L (2012) A memory retrieval-extinction procedure to prevent drug craving and relapse. *Science* 336:241-245. **(VICTORIA)**
- Apr. 23 Eating Disorders**
 Volkow ND, Wise RA, Baler R (2017) The dopamine motive system: implications for drug and food addiction. *Nat Rev Neurosci* 18:741-752. **(SAURAB)**
 Steward T, Menchon JM, Jimenez-Murcia S, Soriano-Mas C, Fernandez-Aranda F (2017) Neural network alterations across eating disorders: a narrative review of fMRI studies. *Curr Neuropharmacol.* **(ALLIE)**
 Glennon EM, Bulik-Sullivan EC, Tang Q, Bulik CM, Carroll IM (2017) Eating Disorders and the Intestinal Microbiota: Mechanisms of Energy Homeostasis and Behavioral Influence. *Curr Psychiatry Rep* 19:51. **(ABBIE)**
- Apr. 30 Depression**
 Foster JA, McVey Neufeld KA (2013) Gut-brain axis: how the microbiome influences anxiety and depression. *Trends Neurosci* 36:305-312. **(MAHDI)**
 Holtzheimer PE, Mayberg HS (2011) Deep brain stimulation for psychiatric disorders. *Annu Rev Neurosci* 34:289-307. **(KONSTANDINA)**
 Krishnan V, Nestler EJ (2010) Linking molecules to mood: new insight into the biology of depression. *Am J Psychiatry* 167:1305-1320. **(SARA)**
- May 7 Anxiety**
 Grupe DW, Nitschke JB (2013) Uncertainty and anticipation in anxiety: an integrated neurobiological and psychological perspective. *Nat Rev Neurosci* 14:488-501. **(ALISSA)**
 LeDoux JE, Pine DS (2016) Using Neuroscience to Help Understand Fear and Anxiety: A Two-System Framework. *Am J Psychiatry* 173:1083-1093. **(ANOUCK)**