COURSE OUTLINE

PSYCI 604 - Cognitive Neuropsychiatry 2017

Schedule: **Tuesday 12:30 - 3:20**
Room: **L1-401 ECHA**

Course description: Seminar course with lectures and reading-based class discussion on recent cognitive-affective neuroscience findings in psychiatry. All psychiatric disorders are characterised by alterations in emotions, thoughts and cognition, yet neuroscientific evidence to corroborate and refine this observation has only recently begun to be integrated into psychiatric theory and research. Readings and discussions review neural manifestations of cognitive-affective disturbances across and within mental illnesses. Following introductory lecture sessions, students will review, analyze and discuss in class recent neurocognitive findings in psychiatry. The goal of this course is to promote a neurobiological understanding of cognitive-affective changes within and across mental illnesses.

Course Objectives:
TO GAIN KNOWLEDGE OF:
a) The biological aspects of changes in emotion and cognition within and across major psychiatric disorders
b) Methods to test and evidence supporting these changes Grade weights: Presentations 50% Class participation 50%Course materials: We do not use a textbook, but research articles and book chapters. These are linked from the course website.

Course Structure:
In the first two sessions after the introduction, background material will be presented regarding theories of (normal and disordered) emotion, and cognitive neuropsychiatry. Subsequent sessions will review specific psychiatric disorders. For each of the sessions, one review article is given and one original research article, proposed by one of the course participants, is discussed. The instructor provides a summary of the review article and will lead the discussion of the review. The class member proposing the article will

be asked to present a summary of the article for that week and lead the discussion of the article they proposed.

Grading and Assignments

Starting after session 2, students pick research articles and present these in class. Presentations will be evaluated with respect to four factors: (a) quality of the presentation: i.e., clarity, coherence, professionalism1 (b) quality of ideas: Do they reflect careful reading and thoughtful consideration of the issues? Do they have the potential to generate productive discussion? Do they suggest new directions for research that could actually be pursued? (c) cross-topic integration: Do they attempt to integrate the current paper with information from prior readings and other materials? This amounts to 50% of the grade. Lectures slides, if applicable, will be posted on eClass before class. This is intended to help preparing for the upcoming discussion and formulating one's own ideas, answers, further questions, etc. Class participation will be the remainder of the grade (50%). Grading criteria include originality of ideas, coherence of verbal expression, evidence of broader knowledge and/or application to broader areas of interest to psychiatry.

NOTES

A) Policy about course outlines can be found in Section 23.4(2) of the University Calendar. (GFC 29 SEP 2003)

B) The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (http://www.governance.ualberta.ca/StudentAppeals/~/media/Governance/Documents/GO05/CAM/Dont%20Cheatsheet/Updated.pdf) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

COURSE SCHEDULE
PSYCI 604 - Cognitive Neuropsychiatry

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Date	Topic and readings	
Jan. 10	**Introduction and explanation of the course**	
Jan. 17	**Affective neuroscience in psychiatry** Dalgleish, T., Dunn, B. D., & Mobbs, D. (2009). Affective neuroscience: Past, present, and future. Emotion Review, 1, 355-368. Dillon, D.G., Deveney, C.M., Pizzagalli, D.A. (2011). From basic processes to real-world problems: How research on emotion and emotion regulation can inform understanding of psychopathology, and vice versa. Emotion Review, 3, 74-82.	
Jan. 24	**Depression** Disner, S.G., Beevers, C.G., Haigh, E.A., Beck, A.T. (2011). Neural mechanisms of the cognitive model of depression. Nature Neuroscience Reviews, 12, 467-477. Rayner, G., Jackson, G., & Wilson, S. (2016). Cognition-related brain networks underpin the symptoms of unipolar depression: Evidence from a systematic review. Neuroscience & Biobehavioral Reviews, 61, 53-65. PLUS original research article suggested by course participant	
Jan. 31	**Anxiety** Etkin, A. (2010). Functional neuroanatomy of anxiety: a neural circuit perspective. Current Topics in Behavioral Neuroscience, 2, 251-277. PLUS original research article suggested by course participant	
Feb. 07	**Schizophrenia** van den Heuvel, M. P., & Fornito, A. (2014). Brain networks in schizophrenia. Neuropsychology Review, 24(1), 32-48. PLUS original research article suggested by course participant	
Feb. 14	**OCD** Milad, M. R., & Rauch, S. L. (2012). Obsessive-compulsive disorder: beyond segregated cortico-striatal pathways. Trends in Cognitive Sciences, 16(1), 43-51. PLUS original research article suggested by course participant	
Reading week		
Feb. 28	**PTSD** Pitman, R. K., Rasmusson, A. M., Koenen, K. C., Shin, L. M., Orr, S. P., Gilbertson, M. W., ... & Liberzon, I. (2012). Biological studies of post-traumatic stress disorder. Nature Reviews Neuroscience, 13(11), 769-787. PLUS original research article suggested by course participant	

Date	Topic and readings	
Mar. 07	**Reward and Addiction** Volkow, N. D., Wang, G. J., Fowler, J. S., Tomasi, D., Telang, F., & Baler, R. (2010). Addiction: decreased reward sensitivity and increased expectation sensitivity conspire to overwhelm the brain's control circuit. Bioessays, 32(9), 748-755. Whitton, A. E., Treadway, M. T., & Pizzagalli, D. A. (2015). Reward processing dysfunction in major depression, bipolar disorder and schizophrenia. Current Opinion in Psychiatry, 28(1), 7-12. PLUS original research article suggested by course participant	
Mar. 14	**Dissociative and somatoform disorders** Bell, V., Oakley, D. A., Halligan, P. W., & Deeley, Q. (2011). Dissociation in hysteria and hypnosis: evidence from cognitive neuroscience. Journal of Neurology, Neurosurgery & Psychiatry, 82(3), 332-339. PLUS original research article suggested by course participant	
Mar. 28	**Psychopathy** Anderson, N. E., & Kiehl, K. A. (2012). The psychopath magnetized: insights from brain imaging. Trends in Cognitive Sciences, 16(1), 52-60. Koenigs, M., Baskin-Sommers, A., Zeier, J., & Newman, J. P. (2011). Investigating the neural correlates of psychopathy: a critical review. PLUS original research article suggested by course participant	
Apr. 04	**ADHD** Rommelse, N. N., Geurts, H. M., Franke, B., Buitelaar, J. K., & Hartman, C. A. (2011). A review on cognitive and brain endophenotypes that may be common in autism spectrum disorder and attention-deficit/hyperactivity disorder and facilitate the search for pleiotropic genes. Neuroscience & Biobehavioral Reviews, 35(6), 1363-1396. PLUS original research article suggested by course participant	
Apr. 11	**Bipolar Disorder** Rosenblat, J. D., Brietzke, E., Mansur, R. B., Maruschak, N. A., Lee, Y., & McIntyre, R. S. (2015). Inflammation as a neurobiological substrate of cognitive impairment in bipolar disorder: Evidence, pathophysiology and treatment implications. Journal of Affective Disorders, 188, 149-159. PLUS original research article suggested by course participant	
Apr. 13 12:30 - 3:20	**Borderline Personality Disorder** Hughes, A. E., Crowell, S. E., Uyeji, L., & Coan, J. A. (2012). A developmental neuroscience of borderline pathology: Emotion dysregulation and social baseline theory. Journal of Abnormal Child Psychology, 40(1), 21-33. Wang, G. Y., van Eijk, J., Demirakca, T., Sack, M., Krause-Utz, A., Cackowski, S., ... & Ende, G. (2016). ACC GABA levels are associated with functional activation and connectivity in the fronto-striatal network during interference inhibition in patients with borderline personality disorder. NeuroImage.	