



SYLLABUS

EDUC 6350 Counseling and The Neurosciences

SEMESTER: Summer I 2017

T & Th. 6:00 – 7:00 p.m.

PROFESSOR: Dr. Samuel Garcia, LPC-S

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Required Texts:

A Counselor's Introduction to Neuroscience

Angela Sikorski, Ph.D., Bill McHenry, Ph.D., Jim Mc Henry, Ph.D.

ISBN-13: 978-0415662284

Pocket Guide To Interpersonal Neurobiology

Dr. Daniel Siegal

ISBN: 978-0-393-70713-7 (pbk)

Course Prerequisites: Student must have earned a grade of B or higher in EDUC 5314 and have permission of the Instructor.

Course Purpose: Counselors are becoming increasingly aware of the neuroscientific revolution that is unfolding in the field of counseling, often referred to as the *Fifth Force*. The term neurocounseling is used to describe the practice of relating counseling and psychotherapeutic interventions to specific neurological changes. This course will strengthen the knowledge base of counselors in all settings by enhancing their counseling and diagnostic skills through understanding the biological structure/function of the brain and the neurological processes associated with cognitions, emotions and behaviors. Students will be equipped with skills and strategies for recognizing brain regions, identifying neurochemical responses, and understanding neuroimaging in relationship to counseling.

Course Description: This course provides students with an understanding of the direct relationships between neuroscience and counseling processes/outcomes for effectively counseling clients of diverse backgrounds. Current research demonstrates that a multitude of counseling approaches appear to have positive impacts on client brain structures and

functions. Course topics include neurological processes associated with cognitions, perceptions, emotions, behaviors, neuroplasticity, neurogenesis, and various psychoactive pharmacological agents commonly used in the treatment of mental disorders.

Skills Competency Component: This course will include a competency assessment process. Vignettes addressing the core areas of neuroscience will be provided to each student one week before the due date. Each vignette is designed to categorize four levels of competency. The competency levels are Excellent, Enhanced, Adequate and Inadequate skills. The four core areas of assessment will include Brain Structure Identification, Neurochemistry Identification, Pharmacology Identification and Counseling Therapy Implementation.

Course Objectives:

1. To offer counseling students cutting edge education by integrating the *Fifth Force* of psychology into the counseling field. CACREP Standards: PI. G. 3. a. & G. 3. b.
2. To acquaint students with the most important and recent theoretical and research developments of the effects of counseling on brain structures and function.
3. To familiarize the students with specific neurochemistry related to a client's human emotions, intrinsic sensations and experience.
4. To familiarize the students with psychological medications commonly used to bolster, maintain or inhibit psychological processes.
5. To introduce the student to identifying relevant brain structures and function through neuroimaging, and particularly functions related to certain behaviors.
6. To introduce the effects of counseling on the concept of neuroplasticity.

Methods of Evaluation:

Collaborate Participation: 28 Pts.
Quizzes: 32 Pts.
Movie Reflection Paper: 30 Pts.
Final Exam: 20 Pts.

Collaborate Participation:

As your instructor, I place heavy emphasis on Individual class participation. The interactive component to this course is critical. It will enhance your reasoning skills, which is very important to the counseling process. Your participation will facilitate others enhancing his or her reasoning skills from drawing from your rich experience(s). The intercultural experiences of students add tremendously to everyone's learning in class.

Our live online streaming interaction will provide us the opportunity to review the week's theme of instruction and will also help to alleviate any issues or answer any questions that often arise when taking online coursework. You will need to have high-speed Internet service, and the *Adobe Flash Player* loaded into your personal computer. **The IT department has suggested that you use Google Chrome or FireFox as your web browser to alleviate technical difficulties.** I have placed a quick link to *Adobe Flash Player* for quick download onto his or her personal computer. Students are always welcome to use the on-campus computer lab for the Collaborate interactive weekly meetings.

Quizzes

Each student will complete a twenty-question quiz on a weekly basis. The quizzes are intended to ensure you can grasp the content of the assigned reading. There is a total of eight (8) quizzes, and each quiz is worth 4 points. If you do well in your quizzes, it is very probable you will do well in the final exam. You will be given the opportunity to use your quizzes to study for the final exam.

Movie Reflection Paper

Reflections papers are intended to move a student from passive learning to Active learning. Active learning enhances reasoning skills that are very important to a counselor. Like your forum entries, this assignment is meant to enhance your counseling skills by grasping certain content while assessing your intrinsic processes. The paper has a grade value of 30 points. I have provided students with a brief video that explains reflective learning and how to write a reflective paper. This approach will motivate your learning and perceptive skills. Since counseling is considered scientific, use an APA format to write this paper. The writing lab can assist you in understanding the mechanics involved in writing a reflective paper.

Final Exam

The final exam is a 100-question True/False and multiple-choice exam. The final exam derives from the weekly quizzes, forum activities and collaborate content. The exam will be posted on Blackboard on the designated date and each student will have four (4) hours to complete the exam.

Readings and Resources:

Aldrich, R.(2013). Neuroscience, education and the evolution of the human brain.
History of Education, 42(3): 396-410.

Berne, K., Bohus, M., Kleindienst, N., Krause, A., Schmahl., C., & Valerius, G. (2009). Hippocampus and amygdala volumes in patients with borderline personality disorder with or without posttraumatic stress disorder, *Journal of Psychiatry and*

- Neuroscience*, 34(4): 289-301.
- Eagan, M., Neely-Barnes, S. L., & Coombs-Orne, T. (2011). Integrating neuroscience knowledge into social work education: A case-based approach. *Journal of social Work Education*, 47(2): 269-282.
- Flor, H., & Nees, F. (2014). Learning, memory and brain plasticity in posttraumatic stress disorder: Context matters. *Restorative Neurology and Neuroscience*, 32(1): 95-102.
- Hara, Y. (2015). Brain plasticity and rehabilitation in stroke patients. *J Nippon Med Sch*, 82(1): 1-13.
- Hastings, R. S., Parsey, R. V., Oquendo, M. A., Arango, V. & Mann, J. (2004). Volumetric analysis of the prefrontal cortex, amygdala, and hippocampus in major depression. *Neuropsychopharmacology*, 29(1): 953-959.
- Hong, S., Kim, J., Choi, E., Suh, J., Kim, C., Klauser, P., Whittle, S., Yucel, M., Pantels, C., & Yi, S. (2013). Reduced orbitofrontal cortical thickness in male adolescents with internet addiction. *Behavioral and Brain Functions*, 9(1): 1-5.
- Haukvik, U. K., Westlye, L. T., Morch-Johnson, L., Jorgensen, K. N., Lange, E. H., Dale, M., Melle, I., Andreassen, O. A., & Agartz, I. (2015). In vivo hippocampal subfield volumes in schizophrenia and bipolar disorder. *Biological Psychiatry*, 77(6): 581-588.
- Knowland, V. C. P., Thomas, M. S. C. (2014). Educating the adult brain: How the neuroscience of learning can inform educational policy. *International Review of Education*, 60(1): 99-122.
- Lebeer, J. (2014). Modifiability and mediated learning in the light of neuroscientific evidence of ecological plasticity. *Transylvanian Journal of Psychology*, 51-59.
- Meyer, D. (2007). Selective serotonin reuptake inhibitors and their effects on relationship satisfaction. *The Family Journal: Counseling and therapy For Couples and Families*, 15(4): 392-397.
- Mian, N. D. (2014). Little children with big worries: addressing the needs of young, anxious children and the problem of parent engagement. *Clinical Child & Family Psychology Review*, 17(1): 85-96.
- Morris, S., Rumsey, J. M., & Cuthbert, B. N. (2014). Rethinking mental disorders: The role of relearning and brain plasticity. *Restorative Neurology & Neuroscience*, 32(1): 1-53.
- Navarro, G., Moreno, E., Bonaventura, J., Brugarolas, M., Farre, D., Aguinaga, D.,

Mallol, J., Cortes, A., Casado, V., Ferre, S., Franco, R., Canela, E., & McCormick, P. J. (2013). Cocaine inhibits dopamine d2 receptor signaling via sigma-1-d2 receptor heteromeres. *PLOS ONE*, 8(4): 1-15.

Rosso, I. M., Cintron, C. M., Steingard, R. J., Renshaw, P. F., young, & A. D., Yurgein-Todd, D. A. (2005). Amygdala and hippocampus volumes in pediatric major depression. *Biological Psychiatry*, 57(1): 21-26.

Valenzuela, F. C. (1997). Alcohol and Neurotransmitter interactions. *Alcohol Health & Research World*, 21(2): 144-148.

Wagner, D. D., & Heartherton, T. F. (2013). Self-regulatory depletion increases emotional reactivity in the amygdala. *Social Cognitive & Affective Neuroscience*, 8(4): 410-417.

Wisse, L. E. M., Biessels, G. L., Stegenaga, B. T., Kooistra, M., VanDer Veen, P. H., Zwanenburg, J.J. M., Van Der Graf, Y., & Geerlings, M. I. (2014). Major depressive episodes over the course of 7 years and hippocampal subfield volumes at 7 tesla mri: The predict-mr study. *Journal of Affective Disorders*, 175(1): 1-7.

PROPOSED COURSE OUTLINE

DATE	TOPIC. ASSIGNMENT DUE AND READINGS
Jun 1	Introduction: Professor and Students Topic: Lobes Article: Stages of Change Quiz 1 Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 6	Topic: Prefrontal Cortex Video: Neurotransmitters and Neurohormones Quiz 2 Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 8	Topic: Limbic system Quiz 3 Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 13	Topic: Basal Ganglia Area Quiz 4

	Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 15	Topic: Neurofeedback Loop and Neuroplasticity Quiz 5 Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun 20	Topic: Neurotransmitters/Neurohormones Quiz 6 Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 22	Topic: Fear/Anxiety/Anger Responses Assessment Tool: GAD 7 Quiz 7 Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 27	Topic: Depression and Memory Implications Assessment Tool: PHQ2 and PHQ9 Quiz 8: Group Collaborative Discussion: Tues. & Thurs, 7:00 pm
Jun. 29	Movie Reflection Paper Due Final Exam