

CLINICAL NEUROPSYCHOLOGY
Department of Psychology
Columbia University
Course Syllabus, Spring 2025

Instructor: E'mett McCaskill, PhD

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Office: 416-J Milbank Hall, Barnard College

Course Meeting Times: Tuesdays, 4:10-6:00 pm

Office Hours: Thursdays, 4-6 pm (In person) or by appointment (ZOOM)

Course Description

This course is an advanced seminar with the goal of introducing students to the theory and practice of Clinical Neuropsychology. This specialized subfield of Clinical Psychology aims to *assess* and *interpret* the relationship between nervous system function, cognition, emotion and behavior; and to *apply* this knowledge to the design of individualized patient interventions. Students will gain an understanding of the field through review of adult and pediatric cognitive and neurological disorders. The psychosocial adjustment of patients living with each disorder and the dynamics among individuals involved in their care are additional themes of emphasis. The course takes an interdisciplinary approach integrating information from several subfields of medicine (neurology, neuroradiology and psychiatry) and psychology (cognitive, abnormal, developmental, biological, health psychology). Students will acquire knowledge through review of both clinical cases and research outcomes. An introductory background in neuroscience is required.

Organizational Approach

The course is “case-based” in that students will review presenting symptoms, etiology/neuropathology and neuropsychological profiles for specific disorders/ diseases. An overview of neuroanatomy, neurophysiology and neurodevelopment will be provided within the context of each disease/disorder. Scientific approaches to brain/behavior investigation including animal and human research methodologies will also be reviewed. The process of Neuropsychological Assessment will be taught through a “hands-on” approach in which students will develop skills through review of assessment instruments. Ethical considerations in the field will be integrated throughout the course.

Course Requirements

Attendance

Consistent attendance is extremely important. It is expected that students will attend all classes unless there is a significant conflict. Please email me before the missed class. Unfortunately, due to the content, pace and format of the course, it will be a challenge to fully grasp material following a missed class.

Class Participation

This class will be taught in seminar format. Student participation is a key factor in nurturing an enriching learning environment. It is expected that all students will contribute to each week’s discussion. You will

be evaluated on the quality of your contributions. Evaluations of class participation will be based on the following:

- Has the student demonstrated knowledge of the reading assignments?
- Has the student provided new insight which builds on information in the readings?
- Is the student a good listener, addressing and integrating comments from classmates?
- Are the student's comments relevant, on track and non-tangential?

Examinations

Each student will be required to complete a take home midterm and final examination. The final examination is not cumulative. Both exams will be distributed one week before the due date and should be uploaded to CANVAS. Material will be included from both lecture and assigned readings.

Reading Assignments, Weekly Questions and Case Presentation

Students are expected to read all assigned readings prior to class. Students will submit two brief questions from the readings each week once student presentations begin. These questions will be posted to the discussion board. Each student should come to class prepared to discuss the readings. In each class session, two or more students will present an overview of a disease/disorder and clinical case, applying knowledge in nervous system dysfunction, relevant functional domains (e.g. attention, memory, visuospatial abilities) and current empirically based interventions. The presenters will read all assigned readings as well as additional articles which will add more depth to the discussion. Students do not submit questions on the date of their presentation.

Students will be assigned to a presentation group in the second week. Each group will meet at times that are convenient for each member. Additional Information will be provided in class.

Papers

Neuropsychological Assessment Report (Referral Question, Background, Test Results, Discussion)- Students will have the opportunity to conduct a neuropsychological evaluation of a practice subject. This evaluation will consist of an interview and administration of small segments of neuropsychological tests. The test subject will be a classmate who will answer questions based on a fictional patient. Students will acquire skill in writing a Neuropsychological Assessment report. For this assignment, students will summarize the presenting symptoms/referral question and background history of the test subject. In addition, students will write a Test/Results section and Discussion section.

Final Paper: Two Options: 1. Review of Empirical Knowledge-Students will choose a disorder/disease and focus on one aspect of the disease-etiology and symptomatology, assessment or treatment. Students will review the scientific literature which informs our current knowledge of the chosen subject area. For example, if a student chooses Alzheimer's disease they may review empirical studies contrasting effective treatments or review studies contributing to knowledge of the neuropathology of Alzheimer's. Students **MUST** include a section with specific focus on the relevance of Clinical Neuropsychology to the disorder/disease. **2. Review of a Cognitive Domain-**The goal of this assignment is to review a particular neurocognitive domain in depth. Students are required to choose a domain of particular interest (e.g. memory, attention, executive function, visuospatial) and summarize current thinking on the theoretical definition of the domain and underlying neural substrates. Current research journal articles must be included as part of this review.

Class Conflicts

Class Absence due to symptoms or illness

Please do not attend class if you are experiencing any symptoms of illness. If you anticipate missing class for an extended period (more than one week), please inform Prof McCaskill.

Class Absence due to Religious Observance, Athletic Competition and Significant Life Events

Religious and cultural observances, athletic competitions and meaningful life event-weddings, job interview, etc are considered excused absences. Please inform me of any conflict so that we can discuss make-up arrangements.

Final Grades

Final averages are calculated as follows:

Midterm and Final Examination	40% (20% each)
Neuropsychological Assessment	20%
Final Paper	20%
Presentation	15%
Weekly Questions	5%

Course Readings

The required texts for the course are:

Ogden, J. A. (2005). Fractured Minds: A Case-Study Approach to Clinical Neuropsychology, 2nd ed. NY, NY: Oxford University Press.

Supplemental

Boyle, G.J., Ster, Y, Stern, D, Sahakian, B.J, Golden, C.J, Lee, Tatia, MeiChun, Chen, S.A. (2021). The Sage Book of Clinical Neuropsychology. Los Angeles, CA: Sage Publications.

Gurd, J.M., Kischka, U. & Marshall, J.C. (2013). The Handbook of Clinical Neuropsychology, Second Edition. NY, NY: Oxford University Press.

Additional readings will be provided from the following texts:

Diagnostic and Statistical Manual of Mental Disorders Fifth Edition, Text Revision (2023). Arlington, VA.: American Psychiatric Press.

Grant, I. & Adams, K. (2009). Neuropsychological Assessment of Neuropsychiatric and Neuromedical Disorders. Third Edition. New York, New York: Oxford University Press.

Kolb, B. & Whishaw, I.Q. (2022). Fundamentals of Human Neuropsychology, Eighth Edition. NY, NY: Worth Publishers.

Lezak, M. D., Howieson, D. B, & Loring, D.W. (2012). Neuropsychological Assessment, 5th ed. NY, NY: Oxford University Press.

Morgan, J.E. & Ricker, J.E. (2017). Textbook of Clinical Neuropsychology, Second Edition. NY, NY: Taylor and Francis Publishers, Inc.

Sherman, E.M.S., Tan, J.E. & Hrabok, M. (2021). A Compendium of Neuropsychological Tests, Third Edition Administration, Norms and Commentary. NY, NY: Oxford University Press.

Boyle, G.J. (Ed.) with Stern, Y., Stein, D., Sahakian, B.J, Golden, C.J., Lee, T.M. & Chen, S.H.A. (2023). The Sage Handbook of Clinical Neuropsychology: Clinical Neuropsychological Assessment and Diagnosis. Los Angeles, California: Sage Publications Ltd.

DISCUSSION TOPICS AND READING ASSIGNMENTS

**Please note this is a tentative reading list, additional readings may be added each week.*

Foundations of Clinical Neuropsychology and Neuroassessment

January 21: Welcome to the Course! The Clinical Neuropsychologist

No Assigned Readings

January 28: Case Analysis

No Assigned Readings

February 4, 11 and 18: Neuroassessment: Theory and Procedures

Reading Assignment:

February 4

Gurd: Chapter 1: Neuropsychology: Past, Present and Future
Chapter 2: Basic Concepts and Principles of Neuropsychological Assessment

Strauss: Chapter 3: History Taking
Chapter 4: Test Selection, Test Administration, and Preparation of the Patient

February 11 and 18

Lezak: Chapter 5: The Neuropsychological Examination: Procedures
Chapter 6: The Neuropsychological Examination: Interpretation

DISCUSSION TOPICS AND READING ASSIGNMENTS

Disorders with Emphasis on Deficits in Specific Cognitive Domains

February 25: Memory: Alzheimer Disease and Other Dementias

Student Presentations Begin

Reading Assignment:

- Gurd: Chapter 9: Neuropsychological Assessment of Memory Disorders
Chapter 28: The Neuropsychological Presentation of Alzheimer's Disease and Other Neurodegenerative Disorders
- Morgan: Chapter 39: Normal Aging, Mild Cognitive Impairment, and Alzheimer's Disease
- Ogden: Case 17: Dementia: A Family Tragedy

March 4: The Aphasias

Reading Assignment:

- Gurd: Chapter 13: The Assessment of Acquired Spoken Language Disorders
Chapter 14: Motor Speech Disorders: An Overview
- Ogden: Case 5: The Breakdown of Language: Case Studies of Aphasia

March 11: Neuroassessment Administration

Take Home Midterm Examination Due, Friday, March 14

March 18: Spring Break-No Class

March 25: Executive Function: Attention Deficit Hyperactivity Disorder/Frontal Lobe Disorders

Reading Assignment:

- Gurd: Chapter 18: Assessment of Executive Function
- Morgan: Chapter 16: Neuropsychological Perspectives on ADHD
Chapter 35: Adult Attention Deficit Hyperactivity Disorder: Basic and Clinical Issues
Chapter 11: Pages 322-332 (Disruptive Behavioral Disorders-ADHD)
- Ogden: Case 9: The Impaired Executive: A Case of Frontal-Lobe Dysfunction

DISCUSSION TOPICS AND READING ASSIGNMENTS

Multiple Domains: Motor, Psychiatric and Neurological Disorders

April 1: Motor Disorders: Parkinson's Disease

Reading Assignment:

Grant: Chapter 9: The Neuropsychological Aspects of Parkinson's Disease and Parkinsonism

Ogden: Case 15: Mind Over Matter: Coping with Parkinson's Disease

Neuroassessment Report Due Friday, April 4

April 8: Cerebrovascular Disorders

Reading Assignment:

Gurd: The Neuropsychology of Vascular Disorders

Morgan: Intracranial Hemorrhage and Subarachnoid Hemorrhage

Ogden: Case 12: Explosions in the Mind: A Case of Subarachnoid Hemorrhage

April 15: Head Trauma and Traumatic Brain Injury

Reading Assignment:

Gurd: Chapter 27: Neuropsychological Presentation and Treatment of TBI

Morgan: Chapter 21: Moderate and Severe Traumatic Brain Injury
Chapter 22: Mild Traumatic Brain Injury and Post Concussion Syndrome

Ogden: Case 10: Beating the Odds, Severe Head Injury and the Importance of Ongoing Rehabilitation
Case 11: The Unseen Injury, Minor Closed Head Injury

April 22: Psychological Disorders: Schizophrenia, Depression and Trauma

Readings: TBA

April 29: Last Class: Course Review

Friday, May 9: Final Examination and Final Paper Submission Deadline

Extra Help

I am available for individual tutoring by appointment. Please do not hesitate to ask for tutoring, additional study materials, and/or general support throughout the semester. My goal is to make sure that each student performs at their maximum potential and that your efforts are rewarded.

College/University Support Services

Academic Accommodations

If you are registered with the Center for Accessibility and Disability Resources (CARDS), Office of Disability Services (Columbia) please follow their guidance as to course procedures and exam proctoring.

If you are not registered and feel that these services could be helpful, do not hesitate to contact either office for additional information.

Barnard CARDS: <https://barnard.edu/disability-services>

Columbia ODS: <https://www.health.columbia.edu/content/disability-services>

Barnard College Honor Code

We, the students of Barnard College, resolve to uphold the honor of the College by engaging with integrity in all of our academic pursuits. We affirm that academic integrity is the honorable creation and presentation of our own work. We acknowledge that it is our responsibility to seek clarification of proper forms of collaboration and use of academic resources in all assignments or exams. We consider academic integrity to include the proper use and care for all print, electronic, or other academic resources. We will respect the rights of others to engage in pursuit of learning in order to uphold our commitment to honor. We pledge to do all that is in our power to create a spirit of honesty and honor for its own sake.

Columbia University Honor Code

We, the undergraduate students of Columbia University, hereby pledge to value the integrity of our ideas and the ideas of others by honestly presenting our work, respecting authorship, and striving not simply for answers but for understanding in the pursuit of our common scholastic goals. In this way, we seek to build an academic community governed by our collective efforts, diligence, and Code of Honor.

In addition, all Columbia College students are committed to the following honor code:

I affirm that I will not plagiarize, use unauthorized materials, or give or receive illegitimate help on assignments, papers, or examinations. I will also uphold equity and honesty in the evaluation of my work and the work of others. I do so to sustain a community built around this Code of Honor.

WELCOME TO CLINICAL NEUROPSYCHOLOGY!!!