



Graduate School of Applied and Professional Psychology (GSAPP)
Rutgers University
New Brunswick, New Jersey
Fall 2024

Introduction to Neuropsychology
18:821:623
Credits: 3
Level: Graduate
Wednesdays 8:45 am - 11:30 am
Psychology Building A317

Instructor: Joshua Cohen, Ph.D.

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Office Hours: By appointment

I will make every reasonable effort to meet with students whenever necessary. Before or after class is a good option. We may also set up a phone meeting.

Rutgers University Mission: As the premier comprehensive public research university in the state's system of higher education, Rutgers, The State University of New Jersey, has the threefold mission of

- providing for the instructional needs of New Jersey's citizens through its undergraduate, graduate, and continuing education programs;
- conducting the cutting-edge research that contributes to the medical, environmental, social, and cultural well-being of the state, as well as aiding the economy and the state's businesses and industries; and
- performing public service in support of the needs of the citizens of the state and its local, county, and state governments.

Each component of the university's mission reinforces and supports the other two.

As the University of New Jersey®, Rutgers is dedicated to teaching that meets the highest standards of excellence, to conducting research that breaks new ground, and to providing services, solutions, and clinical care that help individuals and the local, national, and global communities where they live.

GSAPP Mission: The mission of GSAPP is threefold: education, research/scholarship, and public service. Its goal is to prepare well-educated, qualified, and competent direct-service psychologists who have a special commitment to direct community involvement and to underserved populations--professionals who can integrate scientific knowledge with innovation in the delivery of psychological services to individuals, families, groups, and organizations. Professionals receiving a doctoral degree in psychology should be capable of extending psychological knowledge and exhibiting the high level of analytic skills and theoretical understanding needed to use existing and emerging psychological knowledge.

Core Values. We are guided by four core values that are apparent in our learning environment, centers, and clinics:

1. **Academic excellence** in preparing students for careers in clinical and school psychology.
2. Commitment to **social justice** and helping **underserved populations**.
3. **Diversity** of students trained, approaches used, theoretical orientations followed, and populations served.
4. **Knowledge generation and dissemination** using contemporary research approaches.

Course Description/Overview:

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 neurodevelopmental 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 (e.g. neurology, neuroradiology and psychiatry) and psychology (e.g. cognitive, abnormal, developmental, biological, health psychology). Students will acquire knowledge through review of both clinical cases and research outcomes. I will also introduce you to some neuropsychological tests. An introductory background in neuroscience is required.

Organizational Approach

The course is largely discussion based. We 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 introduced through demonstrations. Topics of ethics and diversity in the field of neuropsychology will be integrated throughout the course.

Required Text

Parsons, M. W., & Braun, M. M. (Eds.). (2024). *Clinical neuropsychology: A pocket handbook for assessment* (4th ed.). American Psychological Association.
<https://doi.org/10.1037/0000383-000>

This is a text worth owning both for the class and for its utility as a reference while doing clinical work with neurological patients.

Suggested Texts

Ogden, J. A. (2012). *Trouble in Mind: Stories from a Neuropsychologist's Casebook*. NY, NY: Oxford University Press.

Curvis, W., & Methley, A. (Eds.). (2021). *Acceptance and Commitment Therapy and Brain Injury: A Practical Guide for Clinicians (1st ed.)*. London: Routledge.

Fernandez, A.L. & Evans, J. (Eds.). (2022). *Understanding Cross-Cultural Neuropsychology: Science, Testing, and Challenges*. NY, NY: Routledge.

Some of the articles we will discuss:

1. American Psychological Association. (2020). Psychological and neuropsychological assessment with transgender and gender nonbinary adults. American Psychological Association. <https://www.apa.org/pi/lgbt/resources/transgender-gender-nonbinary>
2. Arango-Lasprilla, J. C., Rivera, D., Aguayo, A., Rodríguez, W., Garza, M. T., Saracho, C. P., Rodríguez-Agudelo, Y., Aliaga, A., Weiler, G., Luna, M., Longoni, M., Ocampo-Barba, N., Galarza-Del-Angel, J., Panyavin, I., Guerra, A., Esenarro, L., García de la Cadena, P., Martínez, C., & Perrin, P. B. (2015). Trail Making Test: Normative data for the Latin American Spanish speaking adult population. *NeuroRehabilitation*, 37(4), 639–661. <https://doi.org/10.3233/NRE-151284>
3. Becker, S. P., Willcutt, E. G., Leopold, D. R., Fredrick, J. W., Smith, Z. R., Jacobson, L. A., Burns, G. L., Mayes, S. D., Waschbusch, D. A., Froehlich, T. E., McBurnett, K., Servera, M., & Barkley, R. A. (2023). Report of a Work Group on Sluggish Cognitive Tempo: Key Research Directions and a Consensus Change in Terminology to Cognitive Disengagement Syndrome. *Journal of the American Academy of Child and Adolescent Psychiatry*, 62(6), 629–645. <https://doi.org/10.1016/j.jaac.2022.07.821>
4. Cook, N. E., Kissinger-Knox, A., Iverson, I. A., Liu, B. C., Gaudet, C. E., Norman, M. A., & Iverson, G. L. (2023). Social Determinants of Health and Health Equity in the Diagnosis and Management of Pediatric Mild Traumatic Brain Injury: A Content Analysis of Research Underlying Clinical Guidelines. *Journal of neurotrauma*, 40(19-20), 1977–1989. <https://doi.org/10.1089/neu.2023.0021>
5. Davis, J. M., & D'Amato, R. C. (Eds.). (2013). *Neuropsychology of Asians and Asian-Americans: Practical and theoretical considerations*. Springer.
6. Diamond, A. (2020). Executive functions. In M. J. Aminoff, F. Boller, & D. F. Swaab (Eds.), *Handbook of Clinical Neurology* (Vol. 173, pp. 227-240). Elsevier.
7. Faraone, S. V., Banaschewski, T., Coghill, D., Zheng, Y., Biederman, J., Bellgrove, M. A., Newcorn, J. H., Gignac, M., Al Saud, N. M., Manor, I., Rohde, L. A., Yang, L., Cortese, S., Almagor, D., Stein, M. A., Albatti, T. H., Aljoudi, H. F., Alqahtani, M. M. J., Asherson, P., Atwoli, L., ... Wang, Y. (2021). The World Federation of ADHD International Consensus Statement: 208 Evidence-based conclusions about the disorder. *Neuroscience and biobehavioral reviews*, 128, 789–818. <https://doi.org/10.1016/j.neubiorev.2021.01.022>
8. Flatt, J. D., Cicero, E. C., Lambrou, N. H., Wharton, W., Anderson, J. G., Bouldin, E. D., & McGuire, L. C., Taylor, C. A. (2021). Subjective cognitive decline higher among sexual and gender minorities in the United States, 2015-2018. *Alzheimer's & Dementia*, 7(1), e12197. <https://doi.org/10.1002/trc2.12197>
9. Goodarzi, Z., & Ismail, Z. (2017). A practical approach to detection and treatment of depression in Parkinson disease and dementia. *Neurology: Clinical Practice*, 7(2), 128–140. <https://doi.org/10.1212/CPJ.0000000000000351>

10. Jacola, L. M., Partanen, M., Lemiere, J., Hudson, M. M., & Thomas, S. (2021). Assessment and Monitoring of Neurocognitive Function in Pediatric Cancer. *Journal of clinical oncology: Official journal of the American Society of Clinical Oncology*, 39(16), 1696–1704. <https://doi.org/10.1200/JCO.20.02444>
11. Morlett Paredes, A., Carrasco, J., Kamalyan, L., Cherner, M., Umlauf, A., Rivera Mindt, M., Suarez, P., Artiola I Fortuny, L., Franklin, D., Heaton, R. K., & Marquine, M. J. (2021). Demographically adjusted normative data for the Halstead category test in a Spanish-speaking adult population: Results from the Neuropsychological Norms for the U.S.-Mexico Border Region in Spanish (NP-NUMBRS). *The Clinical Neuropsychologist*, 35(2), 356–373. <https://doi.org/10.1080/13854046.2019.1709660>
12. Morlett Paredes, A., Gooding, A., Artiola I Fortuny, L., Rivera Mindt, M., Suárez, P., Scott, T. M., Heaton, A., Heaton, R. K., Cherner, M., & Marquine, M. J. (2021). The state of neuropsychological test norms for Spanish-speaking adults in the United States. *The Clinical Neuropsychologist*, 35(2), 236–252. <https://doi.org/10.1080/13854046.2020.1729866>
13. Morlett Paredes, A., Tarraf, W., Gonzalez, K., Stickel, A. M., Graves, L. V., Salmon, D. P., Kaur, S. S., Gallo, L. C., Isasi, C. R., Lipton, R. B., Lamar, M., Goodman, Z. T., & González, H. M. (2024). Normative data for the Digit Symbol Substitution for diverse Hispanic/Latino adults: Results from the Study of Latinos-Investigation of Neurocognitive Aging (SOL-INCA). *Alzheimer's & Dementia (Amsterdam, Netherlands)*, 16(2), e12573. <https://doi.org/10.1002/dad2.12573>
14. Prigatano, G. P., & Sherer, M. (2020). Impaired Self-Awareness and Denial During the Postacute Phases After Moderate to Severe Traumatic Brain Injury. *Frontiers in Psychology*, 11, 1569. <https://doi.org/10.3389/fpsyg.2020.01569>
15. Qi, W. G., Sun, X., & Hong, Y. (2022). Normative Data for Adult Mandarin-Speaking Populations: A Systematic Review of Performance-Based Neuropsychological Instruments. *Journal of the International Neuropsychological Society: JINS*, 28(5), 520–540. <https://doi.org/10.1017/S1355617721000667>
16. Saadi, A., Choi, K. R., Khan, T., Tang, J. T., & Iverson, G. L. (2024). Examining the Association Between Adverse Childhood Experiences and Lifetime History of Head or Neck Injury and Concussion in Children From the United States. *The Journal of Head Trauma Rehabilitation*, 39(3), E113–E121. <https://doi.org/10.1097/HTR.0000000000000883>
17. Scheffels, J. F., Ballasch, I., Scheichel, N., Voracek, M., Kalbe, E., & Kessler, J. (2023). The Influence of Age, Gender, and Education on Neuropsychological Test Scores: Updated Clinical Norms for Five Widely Used Cognitive Assessments. *Journal of clinical medicine*, 12(16), 5170. <https://doi.org/10.3390/jcm12165170>
18. Sobrino-Relaño, S., Balboa-Bandeira, Y., Peña, J., & Olazarán-Rodríguez, J. (2023). Neuropsychological deficits in patients with persistent COVID-19 symptoms: A systematic review and meta-analysis. *Scientific Reports*, 13, 10309. <https://doi.org/10.1038/s41598-023-37420-6>

19. Swaminathan, A., Emrani, S., Arthur, E., Strenger, J., Salloway, S., Correia, S., & Thompson, L. (2022). Comparing the accuracy of the DCTclock and Montreal Cognitive Assessment to detect cognitive impairment and cerebral amyloid status in older adults. *Alzheimer's & Dementia*, 18. <https://doi.org/10.1002/alz.069272>
20. Werry, A. E., Daniel, M., & Bergström, B. (2019). Group differences in normal neuropsychological test performance for older non-Hispanic White and Black/African American adults. *Neuropsychology*, 33(8), 1089–1100. <https://doi.org/10.1037/neu0000579>
21. Wilson, A. C. (2024). Cognitive Profile in Autism and ADHD: A Meta-Analysis of Performance on the WAIS-IV and WISC-V. *Archives of Clinical Neuropsychology: The Official Journal of the National Academy of Neuropsychologists*, 39(4), 498–515. <https://doi.org/10.1093/arclin/acad073>
22. Woods, S. P., & Norman, M. A. (2021). Do Black lives matter to clinical neuropsychologists? An introduction to a special issue. *The Clinical Neuropsychologist*, 36(2), 209–213. <https://doi.org/10.1080/13854046.2021.2020906>

*More articles may be discussed throughout the semester. I will post them as an announcement if/when it is the case.

Assignments and Evaluation Method:

Homework	10%
Class Presentation	30%
Attendance / class participation	30%
Final Exam	30%

Homework:

The homework questions are based on the readings. Homework will be assigned directly in Canvas. They are due by the end of the day on the day of class. Homework will be assigned intermittently, not weekly.

Presentations:

You and a colleague / classmate will present a case of a made up individual with one of the following neurological or neurodevelopmental disorders. You will present relevant background information (e.g. history of onset, family history, mental health history, cultural background, current symptom complaints, etc.) and behavior observations. You will then pose questions about the case to the rest of the class to see what we guess about the test data. Then present the test data and ask us how we would formulate the case, as well as what interventions we may recommend. Finally, you will present your case formulation and recommendations. Presentations should be between 30 and 60 minutes.

Here are the topics from which you can choose, in no particular order: mild traumatic brain injury, severe traumatic brain injury, stroke, other cerebral vascular disease issues, mild cognitive impairment, Alzheimer's Disease, a variant of Alzheimer's Disease (e.g. frontal variant, posterior cortical atrophy), Frontotemporal Dementia, Dementia with Lewy Bodies, Parkinson's

Disease, Vascular Dementia, Primary Progressive Aphasia, Functional Neurological Disorder, Wernicke-Korsakoff Syndrome, Hydrocephalus, a specific form of epilepsy (e.g. Mesial Temporal Lobe Epilepsy), Multiple Sclerosis or other demyelinating disorder, neuropsychological disorder secondary to autoimmune disease (e.g. Hashimoto's encephalitis), neuropsychology of oncology, neuropsychological disorder secondary to infectious disease (e.g. HIV, COVID-19, etc.), chronic substance use, *ADHD, *ASD (not typically diagnosed by neuropsych tests), *nonverbal learning disorder (*not formally recognized across clinical disciplines). If you would like to present a case based on a diagnosis not listed here, please run it by me first.

Final Exam:

Final exam will be cumulative. It will be open notes / open book and in-person. The format will be multiple choice and short answer.

Grades and Grading Policy

Grade	Description	Numerical Equivalent
A	Outstanding	89.5 -100 (4.0)
B+	Intermediate Grade	87-89.4 (3.5)
B	Good	79.5-86 (3.0)
C	Average	69.5-79.4 (2.0) Grades of C do not count toward graduation
F	Failure	69.4 or below (0.0)
INC	Incomplete	
S	Satisfactory	
U	Unsatisfactory	
PA	Pass	
NC	No credit given	

Course Outline (subject to changes):

Week 1 (9/4): Overview of course, assignments, & texts

Foundations of Neuropsychological Assessment; Cultural and Linguistic Factors in assessment; Quick overview of brain correlates of cognitive function

- Assigned Readings
 - Parsons & Braun Ch.1 & Ch.2
 - Scheffels et al. (2023)

Week 2 (9/11): Culture and Linguistic Factors (continued); Understanding Medical Tests, Medication, and Imaging

- Assigned Readings
 - Parsons & Braun Ch.7 & Ch.8
 - Paredes et al. (2021)
 - Arango-Lasprilla (2015)

Week 3 (9/18): Neurobehavioral Exam; Additional review of brain correlates of cognitive function; Symptom Validity

- Assigned Readings
 - Parsons & Braun Ch. 6

- Swaminathan et al. (2022)

Week 4 (9/25): Pediatric Assessment; other cultural considerations

- Assigned Readings
 - Parsons & Braun Ch. 3
 - Ch. 8 by Yuet Ying Lau in Davis et al. (2013)

Week 5 (10/2): Amnesic Syndromes; Mild Cognitive Impairment / Neurocognitive Disorder

- Assigned Readings
 - Parsons & Braun Ch. 10
 - Parsons & Braun Ch. 15

Week 6 (10/9): **STUDENTS PRESENT**; Attention & executive functioning

- Assigned Readings
 - Parsons & Braun Ch. 9
 - Parsons & Braun Ch. 13
 - Diamond (2020)

Week 7 (10/16): **STUDENTS PRESENT**; Traumatic Brain Injury

- Assigned Readings
 - Parsons & Braun Ch. 16
 - Cook et al. (2023)
 - Saadi et al. (2024)

Week 8 (10/23): **STUDENTS PRESENT**; Epilepsy; Functional Seizures / Functional Neurological Disorder

- Assigned Readings
 - Parsons & Braun Ch. 17
 - Parsons & Braun Ch. 27

Week 9 (10/30): **STUDENTS PRESENT**; Movement Disorders

- Assigned Readings
 - Parsons & Braun Ch. 18
 - Goodarzi et al. (2017)

Week 10 (11/6): **STUDENTS PRESENT**; Neuropsychology of Oncology

- Assigned Readings
 - Parsons & Braun Ch. 20
 - Jacola et al. (2021)

Week 11 (11/13): **STUDENTS PRESENT**; Autoimmune and infectious diseases

- Assigned Readings
 - Parsons & Braun Ch. 20
 - Sobrino-Relaño et al. (2023)

Week 12 (11/20): **STUDENTS PRESENT**; Intellectual Disability Disorder, ASD, ADHD

- Assigned Readings
 - Parsons & Braun Ch. 22

- Faraone et al. (2021)
- Becker et al., (2023)

Week 13 (11/27): **STUDENTS PRESENT**; Other issues related to Diversity in Neuropsychology

- Assigned Readings
 - APA (2020)
 - Flat et al. (2021)
 - Werry et al. (2019)
 - Woods et al. (2021).

Week 14 (12/4): **STUDENTS PRESENT (if needed)**; Special Topics in Neuropsychology and/or anything else that came up during the semester that we want to discuss

Week 15 (12/11): **Final Exam**

Attendance and Participation:

Attendance and class participation are a major part of this class. You are expected to attend all classes and arrive on time. *Only two (2) excused/unexcused absences are permitted. Missing more than 2 classes will result in a 5% point deduction for each additional day of absence from your final grade point.* If you are forced to miss an excessive amount of classes, you will be encouraged to withdraw from the class. Students who arrive to class more than 15 minutes after the class has started are considered tardy, and will be marked absent if they arrive more than 30 minutes after class has started. After 3 late arrivals, an unexcused absence will be marked in your record. The only excused absences are those that are serious or required (e.g., personal medical emergencies or serious illness/injury; death or serious illness in the family; military duties; jury duty). They will always require some form of documentation: Examples include a doctor's note (on letterhead and signed by the doctor; obituary or funeral program; court order/notice; etc.). You must always supply me with the original or a copy of your documentation, which I will keep on file. Only students with approved documentation can be given an excused absence.

Computer/Cell Phone Use in Class

If students are expected to send or receive urgent e-mails, texts, or calls during class, their unanticipated and urgent needs should be communicated to and approved by the instructor prior to class. All cell phones should be turned off or in silent mode. All computing devices should be used only for the purpose of class-related activities.

Academic Integrity

All Rutgers students should review and adhere to the University principles of academic integrity, available at: <http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/>
APA Citation Style. All papers MUST be written using the APA style.

Student Resources

For more information visit: <https://gsapp.rutgers.edu/current-students/important-links>

Accommodations due to Disability

If you seek accommodations due to a documented disability, you may arrange for these through the Office of Disability Services, Kreeger Learning Center, 151 College Avenue;

dfoffice@rci.rutgers.edu or you can visit:

<https://ods.rutgers.edu/students/documentation-guidelines>.

Title IX: <http://compliance.rutgers.edu/resources/resources-for-facultystaff/>

Counseling services. Students often experience personal problems or difficulties during the term that may interfere with learning and their daily activities. If you or someone you know needs to talk to someone regarding such personal issues, the University provides free counseling services through the Counseling and Psychological Services (CAPS) and their information can be found at: <http://psychologicalservices.rutgers.edu>. They also offer a number of useful workshops for general stress management and techniques for promoting mental health. If you have any questions about CAPS or other services, I am happy to speak with you privately.