

## PSYC 627

## Neuropsychological Testing

Fall 2022

<b>Instructor:</b>	Brandy Callahan	<b>Lecture Location:</b>	AD 248
<b>Phone:</b>	403-220-7291	<b>Lecture Days/Time:</b>	Thursdays 9:30-12:15
<b>Email:</b>	<a href="mailto:brandy.callahan@ucalgary.ca">brandy.callahan@ucalgary.ca</a>	<b>Lab Days/Time:</b>	Wednesdays 13:00-15:45
<b>Office Hours:</b>	By appointment	<b>TA:</b>	Ben Peckham
<b>Office:</b>	AD 131C or <a href="https://ucalgary.zoom.us/j/4938011340">https://ucalgary.zoom.us/j/4938011340</a>		<a href="mailto:stephen.peckham@ucalgary.ca">stephen.peckham@ucalgary.ca</a>

**Course Description**

The clinical assessment of neuropsychological functioning in children and adults using a hypothesis-testing model. Fundamentals of administration, scoring, and interpretation of core tests used in neuropsychological assessment.

**Acknowledgments and Respect for Diversity**

Our classrooms view diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought through respectful discussion and inclusion. The Department of Psychology would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III.

**Course Format**

This is an in-person class held on campus.

**Prerequisites**

Admission to the Graduate Program in Clinical Psychology or by permission of the Instructor.

**Required Texts**

- Lezak, M. D., Howieson, D. B., Bigler, E. D. & Tranel, D. (2012). *Neuropsychological Assessment*. Oxford University Press; 5<sup>th</sup> edition. *Text is available in the University Bookstore. If you are unable to procure it for whatever reason, please see me. Older editions are also permitted.*
- Students will be supplied additional selected readings via D2L, and are listed at the end of this syllabus.

**Optional Text**

Strauss, E., Sherman, E. M. S. & Spreen, O. (2022). *A Compendium of Neuropsychological Tests: Administration, Norms, and Commentary*. Oxford University Press; 4<sup>th</sup> edition. *This text is not required, but will be helpful to supplement students' learning experience and is a particularly wise investment for students intending to pursue a career in neuropsychology. Text is available in the University Bookstore. If you are unable to procure it for whatever reason, please see me. Older editions are also permitted.*

## **Professional Standards and Security of Test Materials**

Important regulatory information is available on the College of Alberta Psychologists website: <http://www.cap.ab.ca/>.

Completion of this course does not qualify students to use structured measures independently. Full qualification occurs after completion of practica, internship/residency, advanced degrees, and supervised practice, and requires one to meet provincial licensing requirements.

When interacting with others in a professional capacity, your manner and dress while training should reflect the highest professional standards. You must treat all assessment materials as privileged information. Responsible professional conduct dictates that you exercise strict control over the integrity and security of the assessment materials with which you are provided during this course. You may not supply materials or allow access to tests, individual items, or protocols to unqualified users, i.e., any individuals outside the clinical psychology training program.

Assessment results obtained from practice sessions with volunteer subjects are not considered valid, so must not be shared with the subject.

## **Assessment Methods**

Student evaluations will be based on making a class presentation (25% of final grade), participation in class (25%), posting of discussion questions to D2L prior to class (25%), and submission of a neuropsychological report (25%). Late assignments will not be accepted without instructor approval.

*A. Class presentation (25% of final grade).* Class presentations will consist of preparing and presenting a lecture on one of the topics addressed in the course. Students will be required to create a 45-minute PowerPoint presentation that includes all of the following: (1) an overview of the cognitive function being discussed; (2) a description of the associated neuroanatomical structures and the functions normally mediated by those structures; (3) a description of two neuropsychological assessments used to test the cognitive function being discussed, along with their psychometric properties and their strengths/weaknesses that should be considered; (4) examples of common impairments on these tests in one or more disorders of cognition. Presentations will be evaluated based on both content (e.g., quality and clarity of the material covered) and delivery (e.g., enthusiasm, clarity of speech, etc.). Final student Powerpoint presentations will be posted on D2L.

*B. Class Participation (25% of final grade).* The instructor will rate each student on their engagement and the quality of their interactions and discussion at the end of each class, on a scale from 1 (low participation) to 3 (high level of quality interaction). Students are expected to participate effectively (i.e., in terms of quality and quantity) in class discussions. Participation will be evaluated based on the following: critical or original response to course material, ability to articulate ideas and opinions, comprehension of course content, and familiarity with course readings when assigned. We will strive to create an open and inclusive environment, so that everyone can share their thoughts and ideas about the material covered. You will receive feedback on your participation approximately midway through the term and again at the end of the term.

*C. Discussion Questions (25% of final grade).* Twenty-four hours prior to each class (i.e., by Wednesday morning), students are expected to post on the D2L discussion forum two questions related to the assigned readings for that class. The questions will be available to all students for discussion during the class. Discussion questions are not required if you are doing your class presentation that week.

*D. Neuropsychological report (25% of final grade).* Each student will write a neuropsychological report based on one of the vignettes presented during the semester. The report should be no longer than 3 single-spaced pages in length, and must include the following sections: 1) the reason for referral; 2) relevant background information; 3) self- and other-reports of functioning; 4) behavioral observations from the testing session; 5) an interpreted summary of test scores; 6) conclusions about likely etiology; 7) recommendations. A template report will be made available on D2L. Reports should be submitted in Word format via the designated folder on D2L.

### University of Calgary Academic Integrity Policy

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity.

Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence. It is your responsibility to ensure that you have read and are familiar with the student academic misconduct policy: <https://www.ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>.

### Faculty of Graduate Studies Grading System

A+ = Outstanding performance, A = Excellent performance, A- = Very good performance

B+ = Good performance, B = Satisfactory performance, B- = Minimum pass.

C+ All grades of "C+" or lower are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements. Individual programs may require a higher passing grade.

### Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades. To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A but 89.4% will be rounded down to 89% = A-).

### Tentative Lecture Schedule

Date	Topic	Readings
W Sep 7	<i>University Lectures begin.</i> <b>Lab 1:</b> Welcome & Introductions	<a href="#">Fernández-Ballesteros et al. (2001)</a>
R Sep 8	<b>Lecture 1:</b> Theory and Practice of Neuropsychological Assessment	Lezak Chapters 1 and 5
W Sep 14	<b>Lab 2:</b> Grooved Pegboard; Finger Tapping Test; Finger Localization; Judgement of Line Orientation	Lezak pages 442-443; 610-612; 614-615
R Sep 15	<i>Last day to drop a class without a penalty</i> <b>Lecture 2:</b> Sensorimotor functioning	Lezak Chapter 10 <a href="#">Pedraza &amp; Mungas (2008)</a>
F Sep 16	<i>Last day to add or swap a course</i>	

W Sep 21	<b>Lab 3:</b> Beck Depression/Anxiety Inventories; Geriatric Depression Scale; Depression Scale for Children; Test of Memory Malingering; Rey 15-item test	Lezak pages 805-807; 849-850; 855-856 <a href="#">Center for Epidemiological Studies Depression Scale for Children (CES-DC)</a>
R Sep 22	<b>Lecture 3:</b> Effort, mood and anxiety	Lezak Chapters 19-20
F Sep 23	<i>Fee payment deadline for Fall Term full and half courses.</i>	
W Sep 28	<b>Lab 4:</b> Digit Span; Letter Number Sequencing; Symbol Digit Modalities Test	Lezak pages 403-405; 409-411; 420-422
R Sep 29	<b>Lecture 4:</b> Attention and working memory (guest lecture, Dr. Sara Becker)	Lezak Chapter 9 <a href="#">Barkley, Eme &amp; Mapou debate (2019)</a>
F Sep 30	<i>University Closed National Day for Truth and Reconciliation</i>	
W Oct 5	<b>Lab 5:</b> WASI, WRAT, NAART	561-562; 727; 730-731
R Oct 6	<b>Lecture 5:</b> Intelligence	Lezak Chapter 4 <a href="#">Shuttleworth-Edwards (2016)</a>
M Oct 10	<i>Thanksgiving Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
W Oct 12	<b>Lab 6:</b> CVLT, BVRT, WMS Logical Memory, ROCFT	478-481; 490-493; 499-504; 505-508
R Oct 13	<b>Lecture 6:</b> Episodic memory	Lezak Chapter 11 <a href="#">Papp et al. (2021)</a>
W Oct 19	<b>Lab 7:</b> WCST, Stroop, Trails, DKEFS Tower	416-418; 422-425; 636-642; 678-679
R Oct 20	<b>Lecture 7:</b> Executive functions	Lezak Chapters 15 and 16
W Oct 26	<b>Lab 8:</b> Boston Naming Test, COWAT, Category fluency	549-551; 693-696
R Oct 27	<b>Lecture 8:</b> Language	Lezak Chapter 13 <a href="#">Rivera Mindt et al. (2008)</a>
W Nov 2	<b>Lab 9:</b> Clock Drawing Test, Block Design, Hooper Visual Organization Test	452-453; 590-600
R Nov 3	<b>Lecture 9:</b> Visuospatial/visuoconstruction abilities	Lezak Chapter 14 <a href="#">Libon et al. (2022)</a>
Nov 6-12	<i>Term Break – No labs or lectures</i>	
F Nov 11	<i>Remembrance Day (Observed). University Closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.</i>	
W Nov 16	<b>Lab 10:</b> MoCA, MMSE, DRS, RBANS	758; 766-772
R Nov 17	<b>Lecture 10:</b> Global cognition	Lezak Chapter 18 <a href="#">Riello et al. (2021)</a>
W Nov 23	<b>Lab:</b> ABAS, Lawton & Brody, FAQ, CDR	<a href="#">Emam et al. (2020)</a> ; <a href="#">L&amp;B</a> , <a href="#">FAQ</a> , <a href="#">CDR</a>
R Nov 24	<b>Lecture 11:</b> Activities of daily living	<a href="#">Wong (2006)</a>
W Nov 30	<b>Lab:</b> Scoring and report-writing	Lezak Chapters 6, 7, and 8
R Dec 1	<b>Lecture 12:</b> Report-writing	
W Dec 7	<i>Fall Term Lectures End.</i> <i>Last day to withdraw with permission from Fall Term half courses.</i> <b>Lab:</b> Reporting-writing help/drop-in	

### Absence from a Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. Students who miss a test/exam have up to 48 hours to contact the instructor to ask for a makeup test/exam. It's the instructor's discretion if they will allow a make-up exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a

regularly scheduled test/exam. Once approved by the instructor a makeup test/exam must be written within 2 weeks of the missed test/exam on a day/time scheduled by the instructor. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam <https://www.ucalgary.ca/registrar/exams/deferred-exams>.

### **Travel During Exams**

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered by the department. Students are advised to wait until the final examination schedule is posted before making any travel arrangements. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam <https://www.ucalgary.ca/registrar/exams/deferred-exams>. Students with an exceptional extenuating circumstance (e.g., a family emergency) should contact the Department of Psychology (psyugrd@ucalgary.ca).

**Reappraisal of Graded Term Work** <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

**Reappraisal of Final Grade** <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

### **Academic Accommodations**

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit [www.ucalgary.ca/access/](http://www.ucalgary.ca/access/). Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>.

### **Academic Misconduct**

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

### **Instructor Intellectual Property**

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

### **Copyright Legislation**

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright ([www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf](http://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf)) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material

protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

#### **Freedom OF Information and Protection of Privacy**

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

#### **Student Support and Resources**

<https://www.ucalgary.ca/registrar/registration/course-outlines>

#### **Important Dates**

The last day to drop this course with no "W" notation and **still receive a tuition fee refund is Thursday, Thursday, January 20, 2022.** Last day add/swap a course is **Friday, January 21, 2022.** The last day to withdraw from this course is **Tuesday, April 12, 2022.**

<https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>

## Extra Required Readings

### Barkley, Eme, & Mapou Debate

- Barkley, R., 2019. Neuropsychological testing is not useful in the diagnosis of ADHD: stop it (or prove it)! *ADHD Rep.* 27, 1–8. <https://doi.org/10.1521/adhd.2019.27.2.1>
- Mapou, R.L., 2019. Counterpoint: neuropsychological testing is not useful in the diagnosis of ADHD, but... *ADHD Rep.* 27, 8–12. <https://doi.org/10.1521/adhd.2019.27.2.8>
- Barkley, R., Eme, R., 2019. Is neuropsychological testing useful for any reason in the evaluation of ADHD? A rejoinder to Mapou. *ADHD Rep.* 27, 1–8. <https://doi.org/10.1521/adhd.2019.27.5.1>

Emam, M.M., Al-Sulaimani, H., Omara, E., Al-Nabhany, R., 2020. Assessment of adaptive behaviour in children with intellectual disability in Oman: an examination of ABAS-3 factor structure and validation in the Arab context. *Int. J. Dev. Disabil.* 66, 317–326. <https://doi.org/10.1080/20473869.2019.1587939>

Fernández-Ballesteros, R., De Bruyn, E.E.J., Godoy, A., Hornke, L.F., Ter Laak, J., Vizcarro, C., Westhoff, K., Westmeyer, H., Zaccagnini, J.L., 2001. Guidelines for the Assessment Process (GAP): a proposal for discussion. *Eur. J. Psychol. Assess.* 17, 187–200. <https://doi.org/10.1027//1015-5759.17.3.187>

Libon, D.J., Swenson, R., Lamar, M., Price, C.C., Baliga, G., Pascual-Leone, A., Au, R., Cosentino, S., Andersen, S.L., 2022. The Boston Process Approach and digital neuropsychological assessment: past research and future directions. *J. Alzheimer's Dis.* 87, 1419–1432. <https://doi.org/10.3233/JAD-220096>

Papp, K. V., Samaroo, A., Chou, H.C., Buckley, R., Schneider, O.R., Hsieh, S., Soberanes, D., Quiroz, Y., Properzi, M., Schultz, A., García-Magariño, I., Marshall, G.A., Burke, J.G., Kumar, R., Snyder, N., Johnson, K., Rentz, D.M., Sperling, R.A., Amariglio, R.E., 2021. Unsupervised mobile cognitive testing for use in preclinical Alzheimer's disease. *Alzheimer's Dement. Diagnosis, Assess. Dis. Monit.* 13, 1–10. <https://doi.org/10.1002/dad2.12243>

Pedraza, O., Mungas, D., 2008. Measurement in cross-cultural neuropsychology. *Neuropsychol. Rev.* 18, 184–193. <https://doi.org/10.1007/s11065-008-9067-9>

Riello, M., Rusconi, E., Treccani, B., 2021. The role of brief global cognitive tests and neuropsychological expertise in the detection and differential diagnosis of dementia. *Front. Aging Neurosci.* 13, 1–9. <https://doi.org/10.3389/fnagi.2021.648310>

Rivera Mindt, M., Arentoft, A., Kubo Germano, K., D'Aquila, E., Scheiner, D., Pizzirusso, M., Sandoval, T.C., Gollan, T.H., 2008. Neuropsychological, cognitive, and theoretical considerations for evaluation of bilingual individuals. *Neuropsychol. Rev.* 18, 255–268. <https://doi.org/10.1007/s11065-008-9069-7>

Shuttleworth-Edwards, A.B., 2016. Generally representative is representative of none: commentary on the pitfalls of IQ test standardization in multicultural settings. *Clin. Neuropsychol.* 30, 975–998. <https://doi.org/10.1080/13854046.2016.1204011>

Wong, T.M., 2006. Ethical controversies in neuropsychological test selection, administration, and interpretation. *Appl. Neuropsychol.* 13, 68–76. [https://doi.org/10.1207/s15324826an1302\\_2](https://doi.org/10.1207/s15324826an1302_2)