Clinical Neuropsychology Lab

PSYC32H3
Tuesdays
Lecture 5-7 PM, SW 143
Lab 7-8 PM AC 332
Professor Konstantine Zakzanis
Office Hours: by appointment
Teaching Assistants:
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Brief Description of Clinical Neuropsychology

Neuropsychology is the research discipline that seeks to understand brain and behavior relationships through the study of both healthy and damaged central nervous systems. It seeks to identify the biological substrates of behaviors, from creative genius to mental illness, which account for intellectual processes as well as personality.

Clinical Neuropsychology is an *applied science* that is concerned with the behavioural expression of brain dysfunction (Lezak et al., 2004). The clinical neuropsychologist uses standardized tests to tie the biological and behavioral aspects together. Inferences are made on the basis of accumulated research. Overall, the clinical neuropsychologist interprets every aspect of the examination (both quantitative and qualitative components) to ascertain the relative cognitive strengths and weaknesses that a patient with suspected or known neuropathology. Findings from a neuropsychological examination can be used to make diagnoses, inform rehabilitation strategies, and direct various aspects of patient care.

In this course we will comprehensively explore the science and practice of clinical neuropsychology.

Important Notes

A. All course related inquiries are to be directed to the Teaching Assistant course E-Mail addresses as provided on the first page.

B. Every enrolled student must ensure that they have access to the course website via the UTSC BLACKBOARD. All course related content will be posted here (e.g., lecture slides, important announcements, and midterm grades).

C. All students need to ensure that they have the necessary prerequisites for this course. If this course is taken without having completed the prerequisites, the registrar will not allow you credit for this course at the time of graduation. This can jeopardize the completion of your degree.

D. The prerequisites are Psychological Research Methods (PSYB01H), Abnormal Psychology (PSYB32H), Human Brain & Behaviour (PSYB65H), and any of the following statistics courses: PSYB07H, SOCB06H, STAB22H. The only exclusion for this course is PSYC32H, which is reserved for co-op students in the Behavioural Disorders Stream.

E. Students enrolled in PSYC32 also need to be enrolled in the Specialist (Co-op) Mental Health Studies Program in Psychology and its Applications. The only exclusion for this course is PSYC31.

F. If a lecture is cancelled because of an unforeseen circumstance (e.g., snow-storm cancellation, unexpected illness), students are still responsible for the material that was to be presented in the lecture that day. I will do what I can to cover the missed material the following week as time permits.

G. If a student is absent from a midterm examination due to illness or other extenuating circumstance, they must contact the Teaching Assistant via the course e-mail addresses as soon

as possible. For medical reasons, students must use the University of Toronto Student Medical certificate. Matters concerning the final examination are dealt with solely by the Registrar's office. Any medical documentation that you provide must indicate the date(s) that you needed to be excused from coursework, which must include the date of mid term exam that you missed. You are advised to see your physician within one day of a missed examination. Only documentation from a member registered with the College of Physicians and Surgeons of Ontario will be accepted. You must contact your Teaching Assisstant within one week of a missed exam (or as soon as is reasonably possible).

The University of Toronto's *Verification of Student Illness or Injury* form is located at the following web address:

http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf

H. Make-up midterm examination details will be listed on BLACKBOARD.

I. For all examinations, you must bring your UTSC student ID cards. You are also encouraged to bring a pencil and eraser to allow for making answer changes.

J. Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Access*Ability* Services Office as soon as possible. We will work with you and Access*Ability* Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC Access*Ability* Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or **ability@utsc.utoronto.ca**.

K. For reasons of privacy as well as protection of copyright, unauthorized video or audio recording in classrooms is prohibited. This is outlined in the Provost's guidelines on *Appropriate Use of Information and Communication Technology*. Note, however, that these guidelines include the provision that students may obtain consent to record lectures and, "in the case of private use by students with disabilities, the instructor's consent must not be unreasonably withheld."

L. Grade Scales and Meaning of Grades

NUMERICAL MARKS	LETTER GRADE	GRADE POINT VALUE
90 - 100%	A+	4.0
85 - 89%	A	4.0
80 - 84%	A-	3.7
77 - 79%	B+	3.3
73 - 76%	B	3.0
70 - 72%	B-	2.7
67 - 69%	C+	2.3
63 - 66%	C	2.0
60 - 62%	C-	1.7
57 - 59%	D+	1.3
53 - 56%	D	1.0
50 - 52%	D-	0.7

0 - 49%	F	0.0

M. Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's *Code of Behaviour on Academic Matters* (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

- Using or possessing unauthorized aids.
- Looking at someone else's answers during an exam or test.
- Misrepresenting your identity.

In academic work:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see http://www.utoronto.ca/academicintegrity/).

Readings

Lezak, M.D., Howieson, D.B., Bigler, E.D., & Tranel, D. (2012). Neuropsychological assessment (5th Edition). New York: Oxford University Press.

The price of this text is quite hefty (~$108.00) and thus, a copy of this text has been made available at the UTSC library for short term loan. This text will be likely useful for the preparation of your presentation (see below).

Strauss, E., Sherman, E., & Spreen, O. (2006). A compendium of neuropsychological tests: Administration, norms, and commentary (3rd Edition). Oxford University Press.

Mitrushina, M., Boone, K.B., Razani, J., & D'Elia, L.F., (2005). Handbook of Normative Data for Neuropsychological Assessment., 2nd edition. NY: Oxford University Press.

* all texts can be purchased at Amazon.ca. Pertinent pages from Strauss et al. (2006) and Mitrushina et al., (2005) will be photocopied/provided on blackboard.

Grading Scheme

Lecture Component – Worth 60% of your final grade

1st Midterm
> Administered in-class (February 4) - see announcements if date has changed.
> Will consist of 60 multiple-choice questions
> Worth 20% of your final grade

2nd Midterm
> Administered in-class (March 10) - see announcements if date has changed.
> Non-Cumulative
> Will consist of 60 multiple-choice questions
> Worth 20% of your final grade

Final Exam
> UTSC final examination period
> Non-Cumulative (but representative of entire course learning)
> Will consist of 60 multiple-choice questions
> Worth 20% of your final grade

Laboratory Component – Worth 30% of your final grade

> Laboratory Take-home Test
> Due on January 28, 2016
> Will consist of short-answer and practical (scoring) questions from Strauss et al. and Mitrushina et al.
> Worth 5% of your final grade

> Presentation – Administration/scoring of neuropsychological tests

Dates to be determined in class and will be added to presentation schedule (please see last section of syllabus for schedule)
Worth 10% of your final grade

Final In-vivo Examination (1 hour)
Date to be determined in class (usually prior to UTSC final examination period)
Will involve in-vivo testing (~30 min) and scoring/behavioural observation summaries (~30 min)
Worth 15% of your final grade

Paper Assignment
Worth 10% of your final grade

For this assignment, students will be presented with a Clinical Case demonstration that will unfold throughout the academic term in class. You will be provided with brief background information, referral documentation from the family physician, and neuropsychological test score data. In addition, you will be provided with weekly in-class demonstrations which will reflect the patient's disease/disorder. Your assignment will require you to write up your diagnostic impression and treatment recommendations for the fictitious patient. You will be expected to outline a clinical diagnosis and why you have made it. For example, you should speak to what symptoms were evident and how they fit into the clinical diagnosis you come up with (e.g., behavioral observations, test findings; behavioral relationship to brain and disorder) and moreover, what other clinical diagnoses you ruled out and why (i.e., state your differential diagnosis if there is one to make, and select your clinical diagnosis and state why). The maximum length of this assignment is ONE page, double spaced using 12 point font - anything longer and you will be given a grade of 0% on this assignment. All submissions will go through blackboard.

This assignment will be worth 10% of your final grade in the course and is on April 4, 2016. A late penalty of 10% per day (to a maximum of 3 days) will be applied if late. All submissions will be done through blackboard. Please note we will be using turnitin.com to verify originality.

Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

Here are some instructions for submitting your assignment:
http://portalinfo.utoronto.ca/content/submit-turnitin-assignment

Important Dates

Monday, January 4	Classes begin in S courses and resume in Y courses.
Sunday, January 10	Last day for students writing deferred examinations in April to adjust their current course load (on ROSI only).

Sunday, January 17	Last day to add S courses (on ROSI only).
Friday, February 12	Last day to confirm intention to graduate at the 2016 Spring Convocation.
Monday, February 15	Last day to drop Y courses (on ROSI only) without academic penalty and have them removed from the transcript.
Monday, February 15	Last day to add or remove the CR/NCR mode of assessment for a Y section course (on ROSI only). (Note: For details go to www.utsc.utoronto.ca/registrar)
Monday, February 15	Family Day holiday -> University closed.
Tuesday, February 16 to Saturday, February 20	Reading Week -> No classes held.
Monday, February 22	Classes resume in S and Y courses.
Sunday, March 20	Last day to drop S courses without academic penalty and have them removed from the transcript (on ROSI only).
Sunday, March 20	Last day to add or remove the CR/NCR mode of assessment for an S section course (on ROSI only). (Note: For details go to www.utsc.utoronto.ca/registrar)
Friday, March 25	Good Friday – University Closed
Monday, April 4	Last day of classes and last day for submission of term assignments in S and Y courses. (Note: classes are held on this day only for courses that normally meet on a Friday.)
Tuesday, April 5 to Thursday, April 7	Study Break.
Tuesday, April 5 to Friday, April 22	2015 Fall deferred examinations
Thursday, April 7	Last day to drop UTSC S and Y courses (on eService only) and have them remain on the transcript with a grade of LWD indicating withdrawal without academic penalty. After this date grades are assigned whether or not course work is completed (with a '0' assigned for Incomplete work) and they are calculated into GPAs. (**Note:** See www.utsc.utoronto.ca/registrar for LWD dates for courses on other campuses.)
Friday, April 8 to Friday, April 22	Final examinations in S and Y courses.
June TBA	2016 Spring Convocation. Check "Ceremony Dates" at www.convocation.utoronto.ca/ for the date of the UTSC ceremonies.

Lecture Dates and Readings (see below for LAB dates/readings)

January 7

    Lecture:
        Welcome & Introduction
        History, Theory and Practice of Neuropsychological Assessment
        Chapter 1

January 14

    Lecture:
        Basic Concepts
        Chapter 2
    Demonstration:
        The Neuropsychological Examination: Procedures
        Chapter 5

January 21

    Lecture:
        The Behavioural Geography of the Brain
        Chapter 3

    Demonstration:
        Chapter 9 - *Orientation and Attention*
        Tests and *page numbers*:
- Digit span (forwards/backwards/ sequencing) *403-405, 409-410, 411*
- Trail Making Test *422-425*
- Symbol Digit Modalities Test *420-422*

January 28

    Lecture:
        The Rationale of Deficit Management
        Chapter 4
    Demonstration:
        Chapter 10 - *Perception*
        Tests and *page numbers*:
- Line Bi-section Test *429-431*
- Judgment of Line Orientation *442-444*
- Test of Facial Recognition (Benton) *444-446*

February 4

    First Mid-Term Examination - see announcements if date has changed.
    The examination will cover chapters 1, 2, 3, 4, 5, 9 & 10

February 11

Lecture:
The Neuropsychological Examination: Interpretation
Chapter 6
Demonstration:
Chapter 11 - *Memory I*
Tests and *page numbers*:
- California Verbal Learning Test (Second Edition) *478-481*
- Logical Memory *490-493*
- Complex Figure Test (Rey) *499-504*

February 18

No class (Reading week)

February 25

Lecture:
Neuropathology for Neuropsychologists
Chapter 7
Demonstration:
Chapter 13 - *Verbal Functions and Language Skills*
Tests and *page numbers*:
- Confrontation Naming/Boston Naming Test *548-551*
- Vocabulary (Wechsler) *553-555*
- Word Reading subtest of the Wide Range Achievement Test 4 (WRAT4) *563*
- Information (Wechsler) *565-567*

March 3

Lecture:
Neuropathology for Neuropsychologists, Continued
Chapter 7
Demonstration:
Chapter 14 - *Construction*
Tests and *page numbers*:
- Clock Face *590-594*
- Finger Tapping Test *610-612*
- Block Design (Wechsler) *594-600*
- Grooved Pegboard *614-615*

March 10

Second Mid-Term Examination - see announcements if date has changed.
The examination will cover chapters 6, 7, 11, 12 & 14
The examination is non-cumulative

March 17

    Lecture:
        Neurobehavioral Variables and Diagnostic Issues
        Chapter 8
    Demonstration:
        Chapter 15 - *Concept Formation and Reasoning*
        Tests and *page numbers*:

- Similarities (Wechsler) *621-623*
- Matrix Reasoning (Wechsler) *632-634*
- Sorting Test (D-KEFS) *643-644*

March 24

    Lecture:
        Neurobehavioral Variables and Diagnostic Issues Continued
        Chapter 8
    Demonstration:
        Chapter 16 - *Executive Functions and Motor Performance*
        Tests and *page numbers*:

- Tower Tests: Tower of London (2nd Edition) *675-678*
- Controlled Oral Word Association (COWA) (starting with Verbal Fluency on page 693) *693-695*
- Category Fluency (Animals) *695-696*

March 31

    Demonstration:
        Chapter 20 - *Testing for Response Bias and Incomplete Effort*
        Tests and *page numbers*:

- Test of Memory Malingering *849-850*
- Rey Fifteen-Item Test (FIT) *855-856*
- Dot Counting *854-855*

        Overall Review of the Neuropsychological Examination

End of the Term

The final examination will be scheduled by the registrar's office approximately midway through the term. Details will be provided in class and on the intranet once known. The final examination will cover Chapters 8, 15, 16, and 20 and is non cumulative although do note that the exam questions will be representative of entire course learning.

January 7
> Laboratory 1
>> Topic: Neuropsychological Evaluation & History Taking (figure 3-1 from Strauss et al., 2006)

January 14
> Laboratory 2
>> Topic: Scoring Procedures
>> Practice Questions
>> Assigned Lab Readings: Chapters 1-3 from Mitrushina – readings will be posted on the intranet
>> Chapters 1-5 from Strauss et al., 2006

January 21
> Laboratory 3
>> Topic: Attention & Working Memory; Perception
>> Tests: WAIS-IV Digit Span, Judgment of Line Orientation, Visual Form Discrimination, Face Discrimination Test
>> Take-home test handed out – covers assigned readings, lecture notes, and scoring procedures

January 28
> Laboratory 4
>> Topic: Verbal Memory
>> Tests: California Verbal Learning Test-II; WMS-IV Logical Memory I & II
>> Take-home test due today

February 4
> Midterm #1 – No Lab Today – see announcements if date has changed.

February 11
> Laboratory 5
>> Topic: Visual Memory
>> Tests: Rey-Osterreith Complex Figure Test, WMS-IV - Designs I & II, WMS-IV Visual Reproductions I & III

February 18
> No Lab Today (Reading week).

February 25
> Laboratory 6
>> Topic: Language
>> Tests: Boston Naming Test, Controlled Oral Word Association Test

March 3
> Laboratory 7
>> Topic: Construction
>> Tests: NAB Designs; WASI-II Block Design

March 10
 Midterm #2 – No Lab Today - see announcements if date has changed.

March 17
 Laboratory 8
  Topic: Executive Function
  Tests: Wisconsin Card Sorting Test, Tower of London, WAIS-IV – Figure Weights,
  Trail Making Test

March 24
 Laboratory 9
  Topic: Motor Performance
  Tests: Grooved Pegboard, Finger Tapping Test
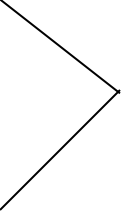
March 31
 Laboratory 10
  Topic: Intelligence
  Tests: NAART, Wechsler Abbreviated Scale of Intelligence (WASI-II)*

 *Note: The Block Design subtest of the WASI-II will have already been covered during Lab #7 (Construction)

Final *In-Vivo* Exam: Date(s) and details to be announced in lab (usually a few days before or into reading week)

PRESENTATION SCHEDULE

Date	Tests	Presenter(s)
January 21	ATTENTION & WM; PERCEPTION • WAIS-IV Digit Span • Judgment of Line Orientation Test • Visual Form Discrimination • Face Discrimination	Eliyas
January 28	VERBAL MEMORY • California Verbal Learning Test-II • WMS-IV Logical Memory I & II	- Chris - Brenna
February 11	VISUAL MEMORY • Rey-O Complex Figure Test • WMS-IV - Designs I & II • WMS-IV - Visual Reproductions I & II	- Jacob - Jocelyn - Rashmi
February 25	LANGUAGE • Boston Naming Test • Controlled Oral Word Association Test	- Keerthana - Christine
March 3	CONSTRUCTION • NAB Designs • Block Design (WASI-II)	- Ava - Daniel
March 17	EXECUTIVE FUNCTIONS • Wisconsin Card Sorting Test • Tower of London • Figure Weights (WAIS-IV) • Trail Making Test	- Thushara - Natasha - Megan - Rabina
March 24	MOTOR PERFORMANCE • Grooved Pegboard • Finger Tapping Test	- Abi - Samantha
March 31	INTELLIGENCE - NAART Wechsler Abbreviated Scale of Intelligence - II • Vocabulary • Similarities • Matrix Reasoning	- Emily - Sharina - Yanni - Ayesha