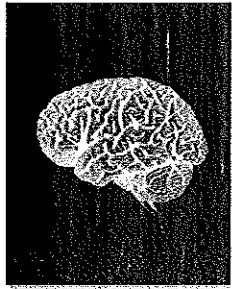
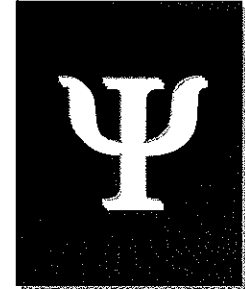




University of Toronto at Scarborough  
Department of Life Sciences



# CLINICAL NEUROPSYCHOLOGY



*Course Instructor*

*Lab Instructor*

*Course Code*

*Lecture Details*

*Laboratory Details*

*Office Hour Details*

*Course E-mail*

Zachariah Campbell

Diana Jovanovski

PSYC32H

Thursdays, 4 to 6 pm, HW215

Thursdays, 6 to 7 pm, AC334

Thursdays, 3 to 4 pm, SW418C

psyc31@utsc.utoronto.ca

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## Brief Description of Clinical Neuropsychology

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**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 the lecture component of this course we will first examine the brain and localization of neuropsychological function. We will then explore the science and practice of clinical neuropsychology where tests measuring different neuropsychological domains (e.g., memory, attention and so on) are employed in patient populations to infer brain dysfunction.

In the laboratory component of this course you will learn to administer, score and interpret a wide variety of neuropsychological measures. By the end of the term, each student should be capable of performing the psychometry for a complete neuropsychological evaluation with competency and ease.

### Important Notes

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- A. All course related inquiries are to be directed to the course e-Mail address as provided on the first page (psyc31@utsc.utoronto.ca).
- B. Every enrolled student must ensure that they have access the course website via the UTSC intranet. All course related content will be posted here (e.g., lecture slides, important announcements, and midterm grades). The only format that will be used for all posted documents is Adobe PDF. Free reading software is available at [www.adobe.com](http://www.adobe.com).
- C. Every effort will be made to post the lecture slides on the Wednesday evening prior to each class (before 10 pm).
- D. 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.
- E. 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.

- F. Students enrolled in PSYC32 also need to be enrolled in the Behavioural Disorders Stream of the Co-op Program in Psychology and its Applications. The only exclusion for this course is PSYC31.
- G. If a lecture or laboratory 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 that day.
- H. If a student is absent from a midterm examination due to illness or other extenuating circumstance, they must contact the instructor via the course e-mail address as soon as possible. For medical reasons, students must use the University of Toronto Student Medical certificate. It can be downloaded on the UTSC website. Matters concerning the final examination are dealt with solely by the Registrar's office.
- I. Make-up midterm examinations are held exactly one week after the original exam date most likely from 2 to 3 pm. Exact details will be listed on the intranet.
- J. For all examinations, you must bring your UofT student ID cards. You are also encouraged to bring a pencil and eraser to allow for making answer changes.
- K. Students with a disability/health consideration are encouraged to approach me and the AccessAbility Services Office (416-287-7560). You can also drop by their office, S302B, inside the Resource Centre. A coordinator is available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations.

## Textbooks

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Lezak, M.D., Howieson, D.B., & Loring, D.W. (2004). *Neuropsychological assessment* (4<sup>th</sup> Edition). New York: Oxford University Press.

*\*This is the same book that was used last year.*

Spreeen, E., & Strauss, O. (1998). *A Compendium of Neuropsychological Tests. Administration, Norms, and Commentary* (2<sup>nd</sup> Edition). New York: Oxford University Press

## Grading Scheme

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Your grade will be determined by three examinations. Two in-class midterms and one final examination. All exams are multiple-choice in format. There will also be an opportunity to gain bonus marks (3%) by way of participating in a research experiment or, alternatively, writing a short paper. These such details will be provided midway through the course.

### PSYC32 (Lecture) Component

#### 1<sup>st</sup> Midterm

Administered in-class (February 2)  
Will consist of 50 multiple-choice questions  
Worth 20% of your final grade  
\*A lecture will follow the exam at 5:15 pm.

#### 2<sup>nd</sup> Midterm

Administered in-class (March 2)  
Non-Cumulative  
Will consist of 50 multiple-choice questions  
Worth 20% of your final grade  
\*A lecture will follow the exam at 5:15 pm.

#### Final Exam

UTSC final examination period (April 17 – May 2)  
Cumulative (but representative)  
Will consist of 75 multiple-choice questions  
Worth 30% of your final grade

### PSYC32 (Laboratory) Component

#### Laboratory Midterm (1 hour)

Will consist of short-answer questions from Spreen & Strauss and Mitrushina et al.  
Worth 10% of your final grade

#### Final In-vivo Examination (2 hours)

Will involve in-vivo testing (1 hour) and scoring/behavioural observation summaries (1 hour)  
Worth 20% of your final grade

## Important Spring Session Dates

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January 22	Last day to add Spring courses.
February 20-24	Reading Week – no classes are held.
March 12	Last day to drop Spring courses without academic penalty. *You will know 60 percent of your grade at this point.
April 7	Last day of classes and last day for submission of term assignments.
April 10-14	UTSC Study Break.
April 17 – May 2	Final examination period.

## Lecture Dates & Readings

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January 12

Lecture 1

Welcome & Introduction

*Theory and Practice of Neuropsychological Assessment*

Chapter 1

Laboratory 1

Topic: Introduction to Psychometry and Neuropsychological Assessment

Introductory Test: NAART (Administration)

Readings: Chapters 1-3 (Spreeen & Strauss)

January 19

Lecture 2

*Basic Concepts*

*The Behavioural Geography of the Brain*

Chapters 2 and 3

Laboratory 2

Topic: Scoring Procedures

Introductory Test: NAART (Scoring and Interpretation)

January 26

Lecture 3

*The Rationale of Deficit Management*

*The Neuropsychological Examination: Procedures*

Chapters 4 and 5

Laboratory 3

Topic: Motor Tests

Tests: Grooved Pegboard Test, Finger Tapping Test, Grip Strength Test

February 2

First Midterm (1<sup>st</sup> hour)

Covers chapters 1 to 5

Lecture 4 (2<sup>nd</sup> hour)

*The Neuropsychological Examination: Interpretation*

Chapter 6

Laboratory 4

Topic: Perception

Tests: Judgment of Line Orientation, Visual Form Discrimination, Face Discrimination Test, Line Bisection

February 9

Lecture 5

*Neuropathology for Neuropsychologists*

Chapter 7

Laboratory 5

Topic: Attention and Working Memory

Tests: BTA, WAIS – III Digit Span, Digit Symbol, Arithmetic

February 16

Lecture 6

*Neuropathology for Neuropsychologists (continued)*

*Neurobehavioural Variables and Diagnostic Issues*

Chapters 7 and 8

Laboratory 6

Laboratory Midterm (1 hour)

\*Based on First 2 lectures (slides), Chapters 1-3 of Spreen & Strauss and Chapters 1-4 of Mitrushina et al.

February 23

No class (Reading week).

March 2

Second Midterm (1<sup>st</sup> hour).  
Non-cumulative (covers only chapters 6 to 8)

Lecture 7 (2<sup>nd</sup> hour)  
*Orientation and Attention*  
*Perception*  
Chapters 9 and 10

Laboratory 7  
Topic: Language  
Tests: Boston Naming Test, Controlled Oral Word Association Test

March 9

Lecture 8  
*Memory I: Tests*  
*Memory II: Batteries, Paired Memory Tests, and Questionnaires*  
Chapters 11 and 12

Laboratory 8  
Topic: Verbal Memory and Implicit Memory  
Test: California Verbal Learning Test – II, Word Stem Completion

March 16

Lecture 9  
*Verbal Functions and Language Skills*  
*Construction*  
Chapters 13 and 14

Laboratory 9  
Topic : Visual Memory and other measures  
Tests: Rey-Complex Figure Test

March 23

Lecture 10  
*Concept Formation and Reasoning*  
*Executive Functions and Motor Performance*  
Chapters 15 and 16

Laboratory 10 (2 hours)  
Topic: Executive Function

Test: Wisconsin Card Sorting Test, Stroop Color and Word Test, Ruff Figural Fluency, Trail Making Test B

March 30

Lecture 11

*Neuropsychological Assessment Batteries  
Observational Methods, Rating Scales and Inventories  
Tests of Personal Adjustment and Emotional Functioning  
Chapters 17, 18 and 19*

Laboratory 11 (2 hours)

Topic: Intelligence, Construction and Pre-Morbid Ability  
Tests: Wechsler Abbreviated Scale of Intelligence, NART

April 6

Lecture 12

*Tests of Personal Adjustment and Emotional Functioning (continued)  
Testing for Response Bias and Incomplete Effort  
Review & Tips for the final  
Chapters 19 and 20*

Laboratory 12 (6 to 9 pm)

Topic: Psychological tests and other vital measures  
Review and extended practice session

April 8 & 9

Laboratory Final Examination

Worth 25% of Final Grade  
In Vivo Testing (1 hour)  
Scoring and Behavioural Testing (1 hour)

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.