

**Faculty of Health**  
**Department of Psychology**  
**PSYC 4080 6.0 A: NEUROPSYCHOLOGY OF ABNORMAL BEHAVIOUR**  
**Wednesday/8:30-11:30am/Zoom**  
**Fall & Winter 2020-2021**

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**This course will be delivered synchronously via Zoom. All lectures, class activities, group discussions, and quizzes will take place online during the scheduled course hours. It is expected that students will attend all classes and actively participate in activities and discussions.**

**Instructor Information**

Instructor: Kristina Gicas, Ph.D., C.Psych.

Office Hours: Available by appointment upon request

Email: kgicas@yorku.ca

**Course Prerequisite(s): Course prerequisites are strictly enforced**

- HH/PSYC 1010 6.00 (Introduction to Psychology), with a minimum grade of C.
- HH/PSYC 2021 3.00 (Statistical Methods I) or HH/PSYC 2020 6.00 (Statistical Methods I and II)
- HH/PSYC 2030 3.00 (Introduction to Research Methods) or substitutes
- HH/PSYC 2240 3.00 (Biological Basis of Behaviour)
- HH/PSYC 3140 3.00 (Abnormal Psychology)
- Students must be in an Honours program in Psychology and have completed at least 84 credits

**Course Credit Exclusions**

Please refer to [York Courses Website](#) for a listing of any course credit exclusions.

**Course Website: [eClass](#)**

The site will be your central access point for course materials. All course materials will be available on the course eClass site or links to electronic versions of the material will be provided.

**Course Description**

This is a seminar-style course that provides an advanced introduction to the study of brain-behaviour relationships. The overarching objective of this course is to provide students with a survey of major clinical neuropsychological disorders that impact attention, memory, language, executive functions, processing speed, visual-spatial abilities, and motor functions. Students can expect to learn: i) how disrupted neuroanatomy and neurophysiology relate to specific patterns of cognitive, emotional, and other behavioural features; ii) basic approaches and issues related to evaluation of various neuropsychological disorders; iii) neuropsychological approaches to treatment of major disorders; and iv) current issues and trends in the broader field of clinical

neuropsychology. Readings for this course will be drawn from various sources and combine classical neuropsychological theories with cutting-edge research in clinical neuroscience.

### Program Learning Outcomes

Upon completion of this course, students should be able to:

1. Demonstrate in-depth knowledge in the neuropsychology of abnormal behaviour.
2. Critically evaluate, synthesize and resolve conflicting results in neuropsychology of abnormal behaviour.
3. Articulate trends in neuropsychology of abnormal behaviour.
4. Locate research articles and show critical thinking about research findings in neuropsychology of abnormal behaviour.
5. Express knowledge of neuropsychology of abnormal behaviour in written form.
6. Engage in evidence-based dialogue with course director and peers.
7. Demonstrate an ability to work with others.

### Required Text

All assigned readings will be available online through the York University library or links posted in eClass. Assigned readings will be supplemented with videos, internet resources, podcasts and/or discussions as deemed relevant by the instructor.

Select chapters will be assigned from the following textbook:

- *The Little Black Book of Neuropsychology: A Syndrome-Based Approach* (2011). M. R. Schoenberg & J. G. Scott.

### Course Requirements and Assessment:

Assessment	Date of Evaluation (if known)	Weighting
Weekly Discussion Questions	Sept 16-Feb17, 2020	15%
Weekly Attendance and Participation	Sept 16-Apr 7, 2020	15%
Neuroanatomy and Methodology Quiz	Oct 7, 2020	20%
Grant Proposal Presentation	TBD (Mar 3-24, 2020)	20%
Grant Proposal	Apr 7, 2020	30%
<b>Total</b>		<b>100%</b>

### Description of Assignments:

**Neuroanatomy and methodology quiz.** Students will be quizzed on neuroanatomy and methods in neuropsychology based on course content covered in Weeks 2-4. The quiz will take place during scheduled class time and it will be a closed-book quiz. The format will be predominately short answer and may include some multiple choice questions.

**Grant proposal.** Students will conceptualize a research proposal to address a question about brain-behaviour relationships related to one of the neurocognitive disorders covered

in class. The research question must be approved by the instructor in advance of drafting the proposal. The research proposal will follow the format of a typical funding application that students would submit at the graduate level, including a background section to support the research question, a clear hypothesis, a methods section, and anticipated outcomes. Students will be provided with details on how to structure the proposal in early January.

**Grant proposal presentation.** Students will deliver a 10-15 minute powerpoint presentation to present on their proposed research question and methodology, with 5-10 minutes reserved for feedback from peers (20 minutes total maximum per student). Students will be marked on the content of the presentation as well as the clarity of oral presentation and organization of slides. Students are expected to use the feedback they receive to refine their proposal. Students who are observing presentations are expected to be engaged and actively participate in providing peer feedback.

**Weekly discussion questions.** Students will be expected to complete all assigned weekly readings and post a minimum of one discussion question per reading on Moodle by the evening prior (11:59pm) to each scheduled class. Questions will be evaluated on the basis of whether they are thought provoking and show a critical appraisal of the readings. It is not sufficient to merely post questions that reiterate points that are presented in the readings. Students are strongly encouraged to post their questions early and review the questions posted by their peers prior to coming to class. Students must be prepared to actively engage in discussion related to these questions.

**Attendance and participation.** Due to the heavy discussion-based component of this course, attendance at all scheduled classes is mandatory. Absences will only be excused in the case of extenuating circumstances with appropriate documentation. Students are expected to actively engage in discussions and in-class activities each week. The grade will be based on the general quality of contributions.

### **Class Format and Attendance Policy**

Weekly attendance is mandatory. All students are expected to attend lectures and actively participate in course activities and group discussions via Zoom during specified course hours (Wednesdays 8:30am-11:30am EST). Attendance will be documented based on the list of students that are signed into each Zoom session. Absences will be excused based on extenuating circumstances with appropriate documentation. All classes will be recorded (audio and video) and posted to the Moodle website.

### **Grading as per Senate Policy**

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and

tests\* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 89, B+ = 75 to 79, etc.)

For a full description of York grading system see the York University Undergraduate Calendar - [Grading Scheme for 2020-21](#)

### **Missed Quiz/Late Assignment**

For any missed quiz or late assignment, students **MUST** do the following two tasks within 48 hours of the original deadline or it will result in a grade of zero for the missed quiz or late assignment.

1. Complete the following online form which will be received and reviewed in the Psychology undergraduate office. At this time, due to COVID-19 an Attending Physician's Statement (APS) is not required, however, a reason for missing an evaluated component in the course must be provided. [HH PSYC: Missed Tests/Exams Form](#).
2. Promptly notify the course instructor of a missed quiz or late assignment and arrange for an alternative date to complete the work if they wish to receive marks for those course components. The date will be mutually agreed upon by the course instructor and student. Make-up quizzes will be in the same format as the original quiz with entirely alternate content. Late assignments without a legitimate reason for missing the deadline will be subject to a late penalty of 10% per day from the original deadline (or from an agreed upon alternative deadline, if applicable).

Examples of legitimate reasons for missing a quiz or assignment deadline may include physical or mental illness that emerged suddenly or unexpectedly and is severe and enough to prevent a student from attending the Zoom lecture online, or a family emergency that prevents attendance. This does not cover all possible legitimate scenarios and reasons for missed quizzes or deadlines will be evaluated on a case-by-case basis.

Students are strongly encouraged to contact the instructor in advance if they foresee any barriers to or have concerns about completing the required course components.

### **Missed Lecture**

If a student misses attendance at a scheduled lecture for any reason, they are NOT required to submit any forms or provide a reason for their absence. A make-up assignment can be completed in lieu of class attendance upon request by the student. This can only be completed up to a total of 2 times per semester. Absences beyond this for any reason will result in a participation grade of zero for the missed class. If a student wishes to make-up a participation mark for a missed lecture, they **MUST** do the following:

1. Promptly notify the instructor of their absence by e-mail and declare their intent to complete a make-up assignment for their absence. The instructor and student will mutually agree upon a submission deadline for the make-up assignment.

- Review the recorded Zoom lecture from the missed class (available on Moodle) and write a 2-page (double-spaced) reflection paper on the content covered that day, to be marked as pass/fail based on the general quality of the content.

### Add/Drop Deadlines

For a list of all important dates please refer to: [Fall/Winter 2020-21 Important Dates](#)

	Fall (F)	Year (Y)	Winter (W)
Last date to add a course <b>without permission</b> of instructor (also see Financial Deadlines)	Sept 22.	Sept 22.	Jan. 25
Last date to add a course <b>with permission</b> of instructor (also see Financial Deadlines)	Oct. 6	Oct. 27	Feb. 8
Drop deadline: Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 6	Feb. 5	March 12
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below)	Nov. 7- Dec. 8	Feb. 6 – April 12	March 13- April 12

### Add and Drop Deadline Information

There are deadlines for adding and dropping courses, both academic and financial. Since, for the most part, the dates are **different**, be sure to read the information carefully so that you understand the differences between the sessional dates below and the [Refund Tables](#).

You are strongly advised to pay close attention to the "Last date to enrol without permission of course instructor" deadlines. These deadlines represent the last date students have unrestricted access to the registration and enrolment system.

After that date, you must contact the professor/department offering the course to arrange permission.

You can drop courses using the registration and enrolment system up until the last date to drop a course without receiving a grade (drop deadline).

You may [withdraw from a course](#) using the registration and enrolment system after the drop deadline until the last day of class for the term associated with the course. When you withdraw from a course, the course remains on your transcript without a grade and is notated as 'W'. The withdrawal will not affect your grade point average or count towards the credits required for your degree.

### Electronic Device Policy

This course will be delivered in an online format and therefore electronic devices (e.g., tablets, laptops) are permitted during class time for course-related purposes. It is expected that you would complete tests/exams in a manner that does not require consulting an unauthorised source during an examination unless the tests/exams are open-book.

## **Academic Integrity for Students**

York University takes academic integrity very seriously; please familiarize yourself with [Information about the Senate Policy on Academic Honesty](#).

It is recommended that you review Academic Integrity by completing the [Academic Integrity Tutorial](#) and [Academic Honesty Quiz](#)

## **Test Banks**

The offering for sale of, buying of, and attempting to sell or buy test banks (banks of test questions and/or answers), or any course specific test questions/answers is not permitted in the Faculty of Health. Any student found to be doing this may be considered to have breached the Senate Policy on Academic Honesty. In particular, buying and attempting to sell banks of test questions and/or answers may be considered as “Cheating in an attempt to gain an improper advantage in an academic evaluation” (article 2.1.1 from the Senate Policy) and/or “encouraging, enabling or causing others” (article 2.1.10 from the Senate Policy) to cheat.

## **Academic Accommodation for Students with Disabilities**

While all individuals are expected to satisfy the requirements of their program of study and to aspire to do so at a level of excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to do so. The university encourages students with disabilities to register with ***Student Accessibility Services (SAS)*** to discuss their accommodation needs as early as possible in the term to establish the recommended academic accommodations that will be communicated to Course Directors as necessary. **Please let me know as early as possible in the term if you anticipate requiring academic accommodation so that we can discuss how to consider your accommodation needs within the context of this course.**

<https://accessibility.students.yorku.ca/>

## **Excerpt from Senate Policy on Academic Accommodation for Students with Disabilities:**

1. Pursuant to its commitment to sustaining an inclusive, equitable community in which all members are treated with respect and dignity, and consistent with applicable accessibility legislation, York University shall make reasonable and appropriate accommodations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs. This policy aims to eliminate systemic barriers to participation in academic activities by students with disabilities.

All students are expected to satisfy the essential learning outcomes of courses. Accommodations shall be consistent with, support and preserve the academic integrity of the curriculum and the academic standards of courses and programs. For further information please refer to: [York University Academic Accommodation for Students with Disabilities Policy](#).

## Course Materials Copyright Information

These course materials are designed for use as part of the PSYC 4080 course at York University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law.

Copying this material for distribution (e.g. uploading material to a commercial third-party website) may lead to a violation of Copyright law. [Intellectual Property Rights Statement](#).

## Course Schedule

This schedule is a tentative guideline and is subject to change by the instructor. Students are expected to complete assigned readings BEFORE the material is covered in class.

### FALL SEMESTER

Week/Date	Topic(s)	Required Readings
Week 1/ Sept 9 <sup>th</sup>	Course overview; introduction to clinical neuropsychology	None.
Week 2/ Sept 16 <sup>th</sup>	Neuroanatomy Part I, neuroimaging  <b>*Discussion question(s) due*</b>	1) Bigler, E. (2015). Structural Image Analysis of the Brain in Neuropsychology Using Magnetic Resonance Imaging Techniques. <i>Neuropsychology Review</i> , 25, 224-249.
Week 3/Sept 23 <sup>rd</sup>	Neuroanatomy Part II, basic assessment approaches  <b>*Discussion question(s) due*</b>	1) Stuss, D. & Levine, B. (2002). Adult Clinical Neuropsychology: Lessons from Studies of the Frontal Lobes. <i>Annual Review of Psychology</i> , 53, 401-433.  2) Casaletto, K. & Heaton, R. (2017). Neuropsychological Assessment: Past and Future. <i>JINS</i> , 23, 778-790.
Week 4/Sept 30 <sup>th</sup>	Neuroanatomy review, neurodevelopmental disorders (autism, ADHD)  <b>*Discussion question(s) due*</b>	1) Velikonja et al. (2019). Patterns of nonsocial and social cognitive functioning in adults with autism spectrum disorder: a systematic review and meta-analysis. <i>JAMA Psychiatry</i> , 76(2), 135-151.  2) Koziol et al. (2012). Neuropsychological assessment and the paradox of ADHD. <i>Applied Neuropsychology: Child</i> , 1(2), 79-89.
Week 5/Oct 7 <sup>th</sup>	<b>*Neuroanatomy/methodology quiz*</b>  Class activity	None.
Week 6/Oct 14 <sup>th</sup>	<b>**Reading Week Classes Cancelled**</b>	
Week 7/Oct 21 <sup>st</sup>	Aphasias/Apraxias/Agnosias  <b>*Discussion question(s) due*</b>	1) Ch.9 Little Black Book (pgs. 201-212)  2) Ch.12 Little Black Book (pgs. 267-279)
Week 8/Oct 28 <sup>th</sup>	Traumatic brain injury	1) Ch.21 Little Black Book

	<b>*Discussion question(s) due*</b>	2) Silverberg et al. (2011). Etiology of the post-concussion syndrome: physiogenesis and psychogenesis revisited. <i>NeuroRehabilitation</i> , 29, 317-329.
Week 9/Nov 4 <sup>th</sup>	Cognitive aging and dementia (Alzheimer's, vascular, frontotemporal)  <b>*Discussion question(s) due*</b>	1) Ch.14 Little Black Book  2) Stern, Y. (2009). Cognitive reserve. <i>Neuropsychologia</i> , 47(10), 2015-2028.
Week 10/Nov 11 <sup>th</sup>	Huntington's disease and Parkinson's disease  <b>*Discussion question(s) due*</b>	1) Brennan, L. et al. (2017). Neuropsychological subgroups in non-demented Parkinson's disease: a latent class analysis. <i>Journal of Parkinson's Disease</i> , 7(2), 385-395.  2) Snowden, J. S. (2017). The neuropsychology of huntington's disease. <i>Archives of Clinical Neuropsychology</i> , 32, 876-887.
Week 11/ Nov 18 <sup>th</sup>	Stroke and cerebrovascular disease  <b>*Discussion question(s) due*</b>	1) Ch. 13 Little Black Book (pgs. 293-304; 309- 332)  2) Kloppenborg, R. et al. (2014). Presence and progression of white matter hyperintensities and cognition: a meta-analysis. <i>Neurology</i> , 82, 2127- 2138.
Week 12/Nov 25 <sup>th</sup>	Multiple sclerosis  <b>*Guest lecture by Elisea De Somma on paediatric multiple sclerosis*</b>  <b>*Discussion question(s) due*</b>	1) Ch. 20 Little Black Book (pgs. 647-656)  2) Santangelo, G. et al. (2019). Cognitive reserve and neuropsychological performance in multiple sclerosis: a meta-analysis. <i>Neuropsychology</i> , 33(3), 379-390.
Week 13/Dec 2 <sup>nd</sup>	Epilepsy  <b>*Discussion question(s) due*</b>	Stafstrom, C. E. & Carmant, L. (2015). Seizures and epilepsy: an overview for neuroscientists. <i>Cold Spring Harbor Perspectives in Medicine</i> , 5, a022426.

### WINTER SEMESTER

Week 1/Jan 13 <sup>th</sup>	<b>*Select presentation dates*</b> Re-orientation to course; developing a research question and proposal; library presentation	Ch.7 APA Handbook. Developing testable and important research questions.
Week 2/Jan 20 <sup>th</sup>	Mood disorders  <b>*Discussion question(s) due*</b>	1) Bora, E. et al. (2013). Cognitive impairment in euthymic major depressive disorder: a meta-analysis. <i>Psychological Medicine</i> , 43, 2017-2026.



		2) Bora, E. (2018). Neurocognitive features in clinical subgroups of bipolar disorder: a meta-analysis. <i>Journal of Affective Disorders</i> , 125-134.
Week 3/Jan 27 <sup>th</sup>	Psychotic disorders  <b>*Discussion question(s) due*</b>	1) Heinrichs, R. W. & Zakzanis, K. K. (1998). Neurocognitive deficit in schizophrenia: a quantitative review of the evidence. <i>Neuropsychology</i> , 12(3), 426-445.  2) Davis, J. et al. (2016). A review of vulnerability and risks for schizophrenia: beyond the two hit hypothesis. <i>Neuroscience and Biobehavioural Reviews</i> , 65, 185-194.
Week 4/Feb 3 <sup>rd</sup>	Substance use disorders  <b>*NOTE: this will be an ASYNCHRONOUS class. No live Zoom meeting this week*</b>  <b>*Guest lecture recording by Emily Livingston on polysubstance use in homeless and unstably housed adults*</b>  <b>*Discussion question(s) due*</b>	1) Cadet, J. & Bisagno, V. (2016). Neuropsychological consequences of chronic drug use: relevance to treatment approaches. <i>Frontiers in Psychiatry</i> , 6.  2) Gicas et al. (2014). Neurocognitive profiles of marginally housed persons with comorbid substance dependence, viral infection, and psychiatric illness. <i>JCEN</i> , 36(10), 1009-1022.
Week 5/Feb 10 <sup>th</sup>	Neuropsychology of everyday functioning  <b>*Discussion question(s) due*</b>	1) Morgan, E. & Heaton, R. (2009). Neuropsychology in Relation to Everyday Functioning. <i>In Neuropsychological Assessment of Neuropsychiatric and Neuromedical Disorders</i> .  2) Fett, A-K. J. et al. (2011). The relationship between neurocognition and social cognition with functional outcomes in schizophrenia: a meta-analysis. <i>Neuroscience and Biobehavioural Reviews</i> , 35, 573-588.
Week 6/Feb 17 <sup>th</sup>	<b>**Reading Week – Classes Cancelled**</b>	
Week 7/Feb 24 <sup>th</sup>	Interventions in neuropsychology  <b>*Discussion question(s) due*</b>	1) Hill et al. (2017). Computerized cognitive training in older adults with mild cognitive impairment or dementia: a systematic review and meta-analysis. <i>American Journal of Psychiatry</i> , 174, 329-340.  2) Northey, J. M. et al. (2018). Exercise interventions for cognitive function in adults older than 50: a systematic review with meta-analysis. <i>British Journal of Sports Medicine</i> , 52, 154-160.

Week 8/Mar 3 <sup>rd</sup>	Grant proposal presentations 1. 2. 3. 4. 5. 6. 7. 8.	
Week 9/Mar 10 <sup>th</sup>	Grant proposal presentations 1. 2. 3. 4. 5. 6. 7. 8.	
Week 10/Mar 17 <sup>th</sup>	Grant proposal presentations 1. 2. 3. 4. 5. 6. 7. 8.	
Week 11/Mar 24 <sup>th</sup>	Grant proposal presentations 1. 2. 3. 4. 5. 6. 7. 8.	
Week 12/Mar 31 <sup>st</sup>	Course catch-up (as needed); class activity; open question/discussion period for grant proposals	
Week 13/Apr 7 <sup>th</sup>	<b>*Grant proposal due*</b>  Future directions in clinical neuropsychology	Miller et al. (2017). The technology crisis in neuropsychology. <i>Archives of Clinical Neuropsychology</i> , 32, 541-554.

Updated: September 1, 2020