

**Faculty of Health**  
**Department of Psychology**  
**HH/PSYC 4080 6.0 Section B (11 30 – 2 30) Vari Hall 2005**  
**NEUROPSYCHOLOGY OF ABNORMAL BEHAVIOUR**  
**FW 2016-17**

---

**Instructor and T.A. Information**

Instructor: Dr. R. Walter Heinrichs  
Office: 263 BSB  
Office Phone: 416-736-2100 ext 66205  
Office Hours: W 10-11 a.m. fall; winter TBA  
Email: walterh@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 (excluding (EDUC) education courses)

**Course website: [Moodle](#)**

**<https://moodle.yorku.ca/moodle/course/view.php?id=74837>**

**Course Description**

This course is designed to develop an appreciation of research and clinical issues in human neuropsychology with special reference to psychiatric and neurological disorders. I have structured the course in such a way that I carry the primary responsibility for instruction during the first term. In the second term students will work more independently and with my guidance to develop and present a formal research proposal. This proposal will be based on the student's interests and chosen from a list and/or in consultation with the instructor. Most students find the experience rewarding and challenging.

During the first term I will provide a half-course on schizophrenia, my principal research interest. I will cover aspects of neuropsychology, psychophysiology, and neuroscience along with information that is specific to understanding schizophrenia. This disorder is the most severe form of mental illness and represents a major scientific and clinical challenge to psychology, psychiatry, and neuroscience. It is also a misunderstood illness, something that I hope the course will help to correct. In the winter term students are free to explore the wide range of clinical neuroscience in research proposals and are not restricted to the study of schizophrenia. Proposals will be written in the form of research grant funding applications designed to advance understanding, diagnosis and/or treatment of behavioural brain disorders. A glance at the topic list that follows will give an additional idea of the scope and potential content of these proposals.

## Previous/Potential Research Proposals

Research proposals must include both behavioural and neurobiological content and measures. Here are some content areas and topics that students have chosen for their papers/proposals in the past:

aphasia, apraxia, agnosia, acalculia, alexia, dementia, dysexecutive syndrome, amnesia, neglect, anosagnosia, emotion, ADHD, synesthesia, neuroimaging, medication frontiers, effectiveness of music therapy for autism, alien hand syndrome, relative effectiveness of behaviour therapy and medication in bipolar disorder, violence and criminality, addictions, motor disorders, multiple sclerosis, Parkinsonism, cerebrovascular disorders, head injury, prevention of Alzheimer's disease, animal models of psychopathology, deep brain stimulation, testing issues, cognitive rehabilitation, speech therapy, cognitive reserve.

## Learning Outcomes

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

1. Demonstrate knowledge of relations between brain and behaviour disorders.
2. Critically evaluate and synthesize research and clinical issues in brain and behaviour.
3. Articulate trends in neuropsychology and biological psychiatry.
4. Locate research articles and show critical thinking about research findings in the field of brain and abnormal behaviour.
5. Communicate knowledge of brain science and abnormal behaviour in oral and written form.
6. Engage in evidence-based dialogue with course director and peers.

## Specific Learning Objectives

1. understand the current state of schizophrenia science, diagnosis and treatment
2. appreciate critically several neuroscience-related perspectives on serious mental illness and behavioural disorders
3. formulate a feasible research idea in terms of granting agency requirements  
describe and communicate research ideas in oral and written formats
4. use and provide constructive feedback from and to peers

## Required Text

- Readings indicated on Moodle website with links to sources

## Course Requirements and Assessment

Assessment	Date of Evaluation (if known)	Weighting
Term test	November 30, 2016	20%
Proposal sketch	January 11, 2017	5%
Oral presentation	February-March, 2017	20%
Proposal write-up	April 7, 2017	40%
Participation	September-April	15%

---

<b>Total</b>		<b>100%</b>
--------------	--	-------------

## **Description of Assignments**

The term test is a 100 question multiple choice evaluation of the first term material. The proposal sketch is a brief description of a research idea along with short bibliography or literature search record. The oral presentation is a scheduled 30 minute talk to the class describing the proposed research project. The purpose of this presentation is to communicate and receive feedback from other students and instructor to assist the write-up. The formal write-up is the major assignment and follows guidelines provided by the instructor. Participation includes general attendance and feedback to peers during presentations as well as demonstrated engagement with the course material.

## **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 90, B+ = 75 to 79, etc.)

(For a full description of York grading system see the York University Undergraduate Calendar - <http://calendars.students.yorku.ca/2016-2017/academic-and-financial-information/academic-services/grades-and-grading-schemes>)

## **Late Work/Missed Tests or Exams**

Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (Attending Physician Statement which can be found at: <http://registrar.yorku.ca/pdf/attending-physicians-statement.pdf>) may request accommodation from the Course Instructor. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

Proper academic performance depends on students doing their work not only well, but on time. Accordingly, assignments for this course must be received on the due date specified for the assignment. Assignments are to be handed in to the course director in person.

**Lateness Penalty:** Assignments received later than the due date will be penalized 10% of the value of the assignment per day. Exceptions to the lateness penalty for valid reasons such as illness, family deaths and emergencies, etc., may be entertained by the Course Instructor but will require supporting documentation (e.g., a doctor's letter explicitly stating that a medical condition prevented normal activity). Notification of lateness due to valid reasons must be communicated immediately to the instructor. Failure to do so can result in denial of accommodation.

**Missed Tests:** Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g., doctor's letter) may request accommodation from the Course Instructor. In the case of the term exam, accommodation will comprise writing a make-up examination on an arranged date as close as possible to the original exam date. Further extensions or accommodation will require students to

submit a formal petition to the Faculty. Please list any further policies/procedures for missed tests/late work such as time line for submitting APS (we suggest 48 hours from missed assignment date, policy about make-up tests or exams, etc.

## Add/Drop Deadlines

For a list of all important dates please refer to: [Important Dates](#)

<b>Important dates</b>	<b>Fall (F)</b>	<b>Year (Y)</b>	<b>Winter (W)</b>
Last date to add a course <b>without</b> permission of	Sept. 21	Sept. 21	Jan. 18
Last date to add a course <b>with permission</b> of instructor (also see Financial Deadlines)	Oct. 5	Oct. 19	Feb. 1
Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 11	Feb. 10	March 10
Course Withdrawal Period (withdraw from a course and receive a "W" on the transcript – see note below)	Nov. 12 - Dec. 5	Feb. 11 - Apr. 5	March 11 - Apr. 5

## Information on Plagiarism Detection

Students are not required to submit written work to a text-matching software service, but may be required to prove authenticity through alternative methods including submission of multiple drafts, annotated bibliographies, copies of source documents, or by responding to oral or written questions directed at the originality of the submitted work.

## Electronic Device Policy

Laptops open to the course Moodle website will be permitted.

## Attendance Policy

Weekly attendance will be recorded and contribute to the participation component of the course grade.

## Academic Integrity for Students

York university takes academic integrity very seriously, please visit [an overview of Academic Integrity at York University](#) from the Office of the Vice-President Academic.

The following links will assist you in gaining a better understanding of academic integrity and point you to resources at York that can help you improve your writing and research skills:

- [Information about the Senate Policy on Academic Honesty](#)
- [Online Tutorial on Academic Integrity](#)
- [Information for Students on Text-Matching Software: Turnitin.com](#)
- [Beware! Says who? A pamphlet on how to avoid plagiarism](#)
- [Resources for students to help improve their writing and research skill](#)

**Test Banks:**

The use of test banks is not permitted in this course and may be considered a potential breach of academic honesty. This includes but is not limited to; buying or selling test banks.

**Electronic Devices During a Test/Examination:**

Electronic mobile devices of any kind are not allowed during a test or examination. Students are required to turn off and secure any electronic mobile device in their bag which is to be placed under the chair while a test/exam is in progress. Any student observed with an electronic device during a test/exam may be reported to the Undergraduate Office for a potential breach of Academic Honesty.

**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 [York University Accessibility Hub](#) is your online stop for accessibility on campus. The [Accessibility Hub](#) provides tools, assistance and resources. Policy Statement

**Policy:** York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs.

The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses.

Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable steps to accommodate these needs in a manner consistent with the guidelines established hereunder.

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 HH/PSYC 4080 6.0B 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:

### Course dates and class content 2016-2017

September 14: **Orientation to course**; introduction to schizophrenia; clinical description; research issues. Reading: NIMH booklet on schizophrenia.

September 21: **Symptoms and cognition I**. Reading: Heinrichs, R. W. (2001). The Nature of Symptoms. Reading: Ch. 2 *In Search of Madness: Schizophrenia and Neuroscience*. New York: Oxford, pp. 21-53.

September 28: **Symptoms and cognition II**. Reading: Moritz, S. et al. (2014). Sowing the seeds of doubt: a narrative review on meta-cognitive training in schizophrenia. *Clinical Psychology Review*, 34, 358-366.

October 5: **Genetic and developmental perspectives**. Glatt, S. J. (2008). Chapter 6: Genetics. *Clinical Handbook of Schizophrenia*, K. T. Meuser & D. Jeste (eds.), pp. 55-64. New York: Guilford. McDonald, P. P. & Singh S. M. (2011). Chapter 9: Schizophrenia has high heritability, but where are the genes? *Handbook of schizophrenia spectrum disorders, Volume 1. Conceptual issues and neurobiological advances*. (M. S. Ritsner, ed.), Pp. 219-236. New York: Springer.

October 12: **Markers and endophenotypes**. Reading: Allen, A. J. et al. (2009). Endophenotypes in schizophrenia: a selective review. *Schizophrenia Research*, 109 24-37.

October 19: **Frontal system brain structure and function**. Reading: Ogden, J. (2005). *Fractured Minds: A case study approach to clinical neuropsychology*, 2nd edition. (Chapter 9: The impaired executive: a case of frontal lobe dysfunction). New York: Oxford. Neirynck, J. & Garey, L. (2009). *Your brain and yourself: What you need to know*. (Chapter 2: A simple architecture of the brain). Berlin: Springer.

October 26: **Temporal lobe system structure and function**. Reading: Ogden, J. (2005). *Fractured Minds: A case study approach to clinical neuropsychology*, 2nd edition. (Chapters 3: Marooned in the Moment: H.M., A Case of Global Amnesia; and 5: The Breakdown of Language: Case Studies of Aphasia. New York: Oxford.

November 2: **Neurochemistry and medication**. Reading: Williamson, P. (2005). Chapter 4: Clues from drugs that affect dopamine, glutamate and other neurotransmitters. *Mind, brain and schizophrenia*. New York: Oxford.

November 9: **Theories**. Readings: Heinrichs, R. W. (2001) Chapter 8: Flights of theory. *In Search of Madness*, pp. 216-247. New York: Oxford.

November 16: **Synthesis**. Readings: Heinrichs, R. W. (2001) Chapter 9: The end of the beginning, *In Search of Madness*, pp. 248-276. New York: Oxford. Sullivan, P.F. (2012). Schizophrenia as a pathway disease. *Nature Medicine*, 18, 210-211. Tost, H. & Meyer-

Lindenberg, A. (2012). Schizophrenia, social environment and the brain. *Nature Medicine*, 18, 211-213.

November 23: **Review and term/test preparation**

November 30: **Term test**

December 7: **Study day, no class**

## **HOLIDAY BREAK**

January 11: **Orientation to second term**; proposal sketch due; discussion of proposal ideas. Schedule of student presentations

January 18: Return of proposals. Discussion of **“Background” section of final research/paper proposal**. Individual consultation.

January 25: Discussion of **“Hypotheses-Research Questions” section of paper**. Individual consultation.

February 1: Discussion of **“Methods” section of research paper/proposal**. Individual consultation.

February 8: Discussion of **“Originality” section of research paper/proposal**. Individual consultation.

February 15: **Student presentations**. First date to hand in paper drafts for feedback.

February 22: **(Reading Week, no class)**

March 1: **Student presentations**. Hand in paper drafts for feedback.

March 8: **Student presentations**. Hand in paper drafts for feedback.

March 15: **Student presentations**. Hand in paper drafts for feedback.

March 22: **Student presentations**. Hand in paper drafts for feedback.

March 29: **Student presentations**. Last day to hand in paper drafts for feedback.

April 5: **Student presentations**, last class (**April 7: Formal research proposal submission date**)