

**Neuropsychological Rehabilitation (PSYC33H3)**  
 University of Toronto, Scarborough  
 Winter 2018

Course Director: Dr. Brandon Vasquez

Office Hours: By appointment  
 (1 hour after class; online/phone)

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Course Websites: <https://portal.utoronto.ca>

**Class Time and Location:** Thursdays 9:00 am – 11:00 am; MW 264

**Objective:** Interventions in the field of Neuropsychological Rehabilitation are discussed against a backdrop of evidence-based practice, relevant neuropsychological and psychological theory and research. The course examines interventions across the most frequently impaired cognitive domains including memory (healthy aging, mild cognitive impairment, and acquired brain injury), attention/executive function (acquired brain injury/traumatic brain injury, concussion), behaviour-regulation (dementia) and language. Other relevant topics in neuropsychological rehabilitation are also covered including adjustment to chronic illness and psychotherapeutic interventions, program evaluation, and neuroplasticity.

**Evaluation:**

Evaluation	Due dates	Content	Course weight (%)
Midterm exam	March 1	Lectures + required readings	30%
Research paper	April 5	Academic paper detailing the design and evaluation of an intervention for a neuropsychological deficit. This can be a case or group study from topics covered in class.	30%
Final exam	TBD	ALL lectures and readings	40%

**Exam Format:** Midterm and final examinations will include multiple choice and short answer questions. Information from lectures and readings will be tested on both midterm and final exams. The final exam is cumulative on ALL material covered in the course. However more emphasis will be placed on material covered since the midterm.

**Missed Exam Policy:** Students who miss an exam will be given the option to write an alternate exam. The alternate exam option will NOT be granted unless the instructor(s) receives appropriate documentation, such as a signed medical certificate or college registrar’s note within one week of the missed exam.

**Appeals Policy:** Appeals must be submitted in writing (not notes on the test). The appeals should include clear and specific details of why you feel a particular mark is incorrect and must be attached to the original test. You will be informed of a decision within one week. Appeals will not be considered without such written documentation. Note that marks on re-graded tests can be increased, decreased, or remain the same.

<b>Date</b>	<b>Topic</b>	<b>Required Readings</b>
Jan 11	Introduction to neuropsychological rehabilitation	<b>Wilson</b> (2008). Neuropsychological rehabilitation <b>Wilson</b> (2011). Cutting edge' developments in neuropsychological rehabilitation and possible future directions
Jan 18	Evidenced-based treatment & program evaluation	<b>Cicerone</b> (2011). Evidence-based cognitive rehabilitation: updated review of the literature from 2003 through 2008. <b>Perdices</b> (2009). Single-subject designs as a tool for evidence-based clinical practice: Are they unrecognized and undervalued?
Jan 25	Memory Intervention – moderate to severe memory impairment <b>Guest Speaker:</b> Dr. Eva Svoboda; Toronto Brain Health	<b>Svoboda</b> (2012). PDA and smartphone use by individuals with moderate-to-severe memory impairment: application of a theory-driven training programme. <b>Evans</b> (2014). Memory dysfunction
Feb 1	Memory Intervention Older Adults, MCI, Dementia <b>Guest speaker:</b> Dr. Kelly Murphy; Baycrest, U of T, Toronto Brain Health	<b>Giebel</b> , (2015). Translating cognitive and everyday activity deficits into cognitive interventions in mild dementia and mild cognitive impairment. <b>Murphy</b> (In press). Multicomponent approaches to secondary prevention of dementia.
Feb 8	Executive functioning & rehabilitation	<b>Turner</b> (2014). Neurorehabilitation of executive functions <b>Arnemann</b> (2015). Functional brain network modularity predicts response to cognitive training after brain injury
Feb 15	Adjustment to chronic illness and psychotherapeutic Interventions in ABI <b>Guest Speaker:</b> Dr. Sharon Jankey; Clinical Director, ABI Behaviour Services, West Park	<b>Livneh</b> (2005). Psychosocial adaptation to chronic illness and disability. A primer for counselors. <b>Ruff</b> (2013) Selecting the appropriate psychotherapies for individuals with traumatic brain injury: What works and what does not?
<b>Feb 22</b>	<b>READING WEEK</b>	<b>NO CLASS</b>
<b>Mar 1</b>	<b>MIDTERM EXAM</b>	All lectures and readings to date
Mar 8	Language, assessment and intervention <b>Guest Speaker:</b> Dr. Regina Jokel; Speech-Language Pathology, University of Toronto	<b>Berthier</b> (2011). Neuroscience insights improve neurorehabilitation of post stroke aphasia. <b>Marshall</b> (2005). Can speech and language therapy with aphasic people affect activity and participation levels?
Mar 15	Neurorehabilitation in TBI and concussion	<b>Miller</b> (2013). Environmental enrichment may protect against hippocampal atrophy in the chronic stages of traumatic brain injury. <b>Conder</b> (2015). Neuropsychological and psychological rehabilitation interventions in refractory sport-related post-concussive syndrome.
Mar 22	Behaviour Management in dementia <b>Guest Speaker:</b> Dr. Yael Goldberg, Clinical Psychologist & neuropsychologist, Baycrest Health Sciences	<b>Cohen-Mansfield</b> (2001). Nonpharmacologic interventions for inappropriate behaviours in dementia: A review, summary, and critique. <b>Gitlin</b> (2013). Managing behavioral symptoms in dementia using nonpharmacologic approaches: An overview.
Mar 29	Neuroplasticity	<b>Hummel</b> (2014). Brain stimulation <b>Robertson</b> (1999). Rehabilitation of brain damage: Brain plasticity and principles of guided recovery.
<b>April 5</b>	<b>PAPER DUE &amp; EXAM REVIEW</b>	Last half of class open for discussion about applying to graduate school, psychology, rehabilitation field in general ...

## **Other (Very) Important Policies**

### **Email Policy:**

- Always use the website discussion board for course-related questions. This way, all students will benefit from the reply, whether from the instructor, TAs, or your fellow students. If you send content related emails you will simply be asked to post the query on the discussion board. I will be checking the board regularly and will address (relevant) unanswered messages.
- If your question is not suitable for the discussion board (and please think carefully about this), send it to the instructor only. Emails not suitable for the discussion board would include those that are personal in nature.
- Each message to the instructor/TA must include PSYC33 in the subject line and include your full name and student number in the correspondence.
- Be sure to consult the course syllabus and website (including discussion board) BEFORE submitting inquiries by email.
- Whenever possible, email inquiries will be replied to within 2 days, excluding weekends. If you do not receive a reply within this period, please resubmit your email as some servers can be unreliable.

### **Policy on Academic Misconduct**

Students are responsible for avoiding the occurrence of academic misconduct. Plagiarism is the unacknowledged borrowing (or “stealing”) of another writer’s words and ideas, and minor changes in the wording here and there are not sufficient to avoid plagiarism. Students are urged to refer to <http://www.utoronto.ca/writing/plagsep.html> for more details on what counts as plagiarism and what can be done to avoid plagiarism. It is a students’ responsibility to read and understand the department’s policies on plagiarism.

## Reading List

### January 11

- Wilson, B. A.** (2011). Cutting edge' developments in neuropsychological rehabilitation and possible future directions. *Brain Impairment*, 12(1), 33–42.
- Wilson, B. A.** (2008). Neuropsychological rehabilitation. *Annual Review in Clinical Psychology*, 4, 141–162.

### January 18

- Cicerone, K. D., Langenbahn, D. M., Braden, C., Malec, J. F., Kalmar, K., Fraas, M., . . . Ashman, T.** (2011). Evidence-based cognitive rehabilitation: updated review of the literature from 2003 through 2008. *Archives of Physical Medicine and Rehabilitation*, 92(4), 519-530.
- Perdices, M., & Tate, R.L.** (2009). Single-subject designs as a tool for evidence-based clinical practice: Are they unrecognized and undervalued? *Neuropsychological Rehabilitation*, 19(6), 904–927.

### January 25

- Svoboda, E., Richards, B., Leach, L., & Mertens, V.** (2012). PDA and smartphone use by individuals with moderate-to-severe memory impairment: application of a theory-driven training programme. *Neuropsychological rehabilitation*, 22(3), 408-427.
- Evans, J.J.** (2014) Memory dysfunction. In Selzer, M., Clarke, S., Cohen, L., Kwakkel, G., & Miller, R. (eds.) *Textbook of Neural Repair and Rehabilitation*. Cambridge: Cambridge University Press, pp. 478–488.

### February 1

- Giebel, C., & Challis, D.** (2015). Translating cognitive and everyday activity deficits into cognitive interventions in mild dementia and mild cognitive impairment. *International journal of geriatric psychiatry*, 30(1), 21-31.
- Murphy, K.J.** (In press). Multicomponent approaches to secondary prevention of dementia. In Smith, G.E. & Farias, S (eds.) *APA Handbook of Dementia*. Washington: APA Books.

**February 8**

**Turner, G.R.** and D'Esposito, M. (2014). Neurorehabilitation of executive functions. In Selzer, M., Clarke, S., Cohen, L., Kwakkel, G., and Miller, R. (eds.) *Textbook of Neural Repair and Rehabilitation*. Cambridge: Cambridge University Press, pp. 489–499.

**Arnemann, K. L., Chen, A. J.-W., Novakovic-Agopian, T., Gratton, C., Nomura, E. M., & D'Esposito, M.** (2015). Functional brain network modularity predicts response to cognitive training after brain injury. *Neurology*, *84*(15), 1568–1574.  
<http://doi.org/10.1212/WNL.0000000000001476>

**February 15**

**Livneh, H. & Antonak, R. F.** (2005). Psychosocial adaptation to chronic illness and disability. A primer for counselors. *Journal of Counseling Development*, *83*, 12-20.

**Ruff, R.** (2013). Selecting the appropriate therapies for individuals with traumatic brain injury: What works and what does not? *NeuroRehabilitation*, *32*(4), 771-779.

**March 8**

**Berthier, M. L., Pulvermuller, F.** (2011). Neuroscience insights improve neurorehabilitation of poststroke aphasia. *Nature Reviews Neurology*, *7*(2), 86-97.

**Marshal, J.** (2005). Can speech and language therapy with aphasic people affect activity and participation levels?: A review of the literature. In P.W. Halligan, D.T. Wade (Eds.). *Effectiveness of Rehabilitation for Cognitive Deficits*. New York: Oxford University Press, pp. 195-207.

**March 15**

**Miller, L.S., Collela, B., Mikulis, D., Maller, J., and Green, R.E.A.** (2013). Environmental enrichment may protect against hippocampal atrophy in the chronic stages of traumatic brain injury. *Frontiers in Human Neuroscience*, *7*, 1-8.

**Conder, R. and Conder, A.A.** (2015). Neuropsychological and psychological rehabilitation interventions in refractory sport-related post-concussive syndrome. *Brain Injury*, *29*(2), 249-262.

**March 22**

**Cohen-Mansfield.** (2001). Nonpharmacologic interventions for inappropriate behaviours in dementia: A review, summary, and critique. *The American Journal of Geriatric Psychiatry*, *9*(4), 361-381.

**Gitlin, L.N., Kales, H.C., and Lyketsos, C.G.** (2013). Managing behavioral symptoms in dementia using nonpharmacologic approaches: An overview. *JAMA*, *308*(19), 2020-2029.

**March 29**

**Hummel, F.C. and Celnik, P. (2014).** Brain stimulation. in Selzer, M., Clarke, S., Cohen, L., Kwakkel, G., and Miller, R. (eds.) *Textbook of Neural Repair and Rehabilitation*. Cambridge: Cambridge University Press, pp. 141–149. [*read each section broadly, pay attention to gist of each section*]

**Robertson, I. H., Murre, J.M.J. (1999).** Rehabilitation of brain damage: Brain plasticity and principles of guided recovery. *Psychological Bulletin*, 125(5), 544-575. [*skim the technicalities of how analyses/theory was derived*]