Course Description

Neuropsychology

Leading Lecturer: Zita S. Nagy

Aim of the course

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Neuropsychology course performs fundamental and applied research on brain-cognition-behaviour relationships. It employs an integrative approach in which brain function, behavioural outcome and the effect of interventions are investigated.

The aim is that during the course students gain insight into the work of a neuropsychologist including anamnesis, test compilation, neuropsychological assessment, interpretation of the results, and interventions.

Learning outcome, competences

knowledge:

- expansive knowledge of the literature discussed on the neuropsychology course
- knowledge of quantitative, qualitative and syndrome analytic processes discussed on the course, which are suitable for examination and interpretation of different neuropsychological phenomena.

attitude:

Student

- shows sensitivity and interest towards neuropsychological phenomena and problems
- acknowledges and tolerates individual differences
- aspires to deepen and solidify the special professional interest
- demonstrates effort for cooperation and teamwork

skills:

- ability to formulating hypotheses required for examining neuropsychological phenomena
- skills to admitting processes (tests) learned on the course and of their primary evaluation under supervision
- under adequate supervision skills to participate in examining congitiv functions in educational, training, developmental, medicinal or rehabilitational institutions where the work processes are in unison with neuropsyhcological approach
- ability to recognizeing the boundaries of the professional competence, e.g. he/she can not provide a neurophsychological opinion

Content of the course

Topics of the course

The focus is on particular neuropsychological conditions and cognitive dysfunctions that are the result of known structural brain damages. With respect to brain damage, the focus is on assessment

and treatment methods. All these factors are studied in their single and combined effect on normal neurocognitive outcome as well as on mild to severe cognitive dysfunction in adult. For that purpose, a broad range of research methods is overviewed and explained, including longitudinal, interventional, experimental, patient-related, psychophysiological, and neuroimaging techniques.

Discussed syndromes and disturbances: neglect syndrome, apraxia, aphasia, dementia, epilepsy, disturbance of visual processes, memory disorders and disorders of attention and executive functions.

Learning activities, learning methods

Lecture, guided individual and group exercises, autonomous individual and group work, case presentations. During the course the students will have the opportunity to attend a 45 minute human anatomy class including post-mortem brain examination.

Evaluation of outcomes

Learning requirements, mode of evaluation, criteria of evaluation:

requirements

- acitve participation on class
- konwledge of the literature and theoretical material discussed on class
- completion of practical exercises, homework, essay

mode of evaluation:

Oral exam based on the theoretical material (lectures and compulsory reading). The lecture has a five degree grading.

The practical seminar grade is a five degree grade based on 2 tests during the course and on the performance of practical exercises.

Final grade: five degree grading – calculated from the average of the oral grade (50%) and the practical seminar grade (50%). Neither of the partial grades can be graded 1.

criteria of evaluation:

- quality and quantity of knowledge encomppasing the course
- quality of pracitcal exercises, homework, essays

Reading list

Compulsory reading list

1. Schwartz MF and Dell GS. Case series investigations in cognitive neuropsychology. Cogn Neuropsychol. 2010 Sep;27(6):477-94.

2. Sitek EJ, Barczak A, Harciarek M. Neuropsychological assessment and differential diagnosis in young-onset dementias. Psychiatr Clin North Am. 2015 Jun;38(2):265-79.

3. LORI BUCHANAN and DEREK BESNER :Reading Aloud: Evidence for the Use of a Whole Word Nonsemantic Pathway. http://emilkirkegaard.dk/lyddansk/sites/default/files/files/Reading%20aloud%20Evidence%20for%20the%20use%20of%20a%20whole%20word%20nonsemantic%20pathway.pdf

4. Miyake et al, The Unity and Diversity of Executive Functions and Their Contributions to Complex ‘‘Frontal Lobe’’ Tasks: A Latent Variable Analysis. Cognitive Psychology 41, 49–100 (2000)

5. Elliott, Executive functions and their disorders. Imaging in clinical neuroscience. Br Med Bull (2003) 65 (1): 49-59.

6. Chan et al. Assessment of executive functions: Review of instruments and identification of critical issues. Archives of Clinical Neuropsychology, 23 (2008) 201-216.

7. Weintraub S, Wicklund AH, Salmon DP: The Neuropsychological Profile of Alzheimer Disease. Cold Spring Harb Perspect Med. 2012 Apr; 2(4): a006171.

8. Al Martinez: Neuropsychologists--An Important Part of the Team http://www.alz.org/georgia/documents/role_of_the_neuropsychologist_in_AD.pdf

9. Shaik SS, Varma AR: Differentiating the dementias: a neurological approach. Progress in Neurology and Psychiatry vol 16, issue 1 2012 http://onlinelibrary.wiley.com/doi/10.1002/pnp.224/pdf

10. CACCAPPOLO-VAN VLIET E et al. The neuropsychological profiles of mild Alzheimer’s disease and questionable dementia as compared to age-related cognitive decline. Journal of the International Neuropsychological Society (2003), 9, 720–732. http://www.cumc.columbia.edu/dept/sergievsky/pdfs/Neuropsychological.pdf

11. Riddoch, M. J., Humphreys, G. W. (1987). "A Case of Integrative Visual Agnosia". Brain 110: 1431–1462.doi:10.1093/brain/110.6.1431

12. Koziol LF, Joyce AW, Wurglitz G. The neuropsychology of attention: revisiting the "Mirsky model". Appl Neuropsychol Child. 2014;3(4):297-307

13. Verseghi A., SNagy Z (2016): Viewing down from the top: Visual impairments developing as a consequence of cortical injury. In: Somlai J., Kovács T. (eds) Neuro-ophthalmology. Springer. 663-676. ISBN 978-3-319-28954-0

14. Verseghi A., SNagy Z (2016): Ignored world without missing it: Neglect. In: Somlai J., Kovács T. (eds) Neuro-ophthalmology. Springer. 676-688. ISBN 978-3-319-28954-0

Book:

Roberts, Rubbins, Weiskrantz: The prefrontal cortex, Executive and cognitive functions.