COURSE UNIT DESCRIPTION

Course unit (module) title	Course unit (module) title in English	Code
ŽMOGAUS NEUROPSICHOLOGIJA (LITHUANIAN)	**HUMAN NEUROPSYCHOLOGY (ENGLISH)**	

Lecturer(s)	Department(s)
Coordinator: Lect. R. Dirvanskienė	FSF, GMC

Mode of delivery	Period of delivery	Language(s) of instruction
Face-to-face, auditorial	Spring	English

Student's prerequisites	
Prerequisites: English language proficiency at B2 level	**Co-requisites (if any):** None

Number of ECTS credits allocated to the course unit (module)	Student's total workload	Contact hours	Self-training work hours
5	132	48	84

Purpose of the course unit (module): study programme competences to be developed

The main objective of subject *Human Neuropsychology* – to teach students about neural mechanisms of different mental functions, historical development of understanding of localization of functions in the brain, sequences of brain local damages and neurological diseases. The naturalistic approach to the understanding of human psyche and its relations with the material processes in the brain will be shaped. The knowledge of neuropsychological assessment and rehabilitation of neurological clients will be presented.

Learning outcomes of the course unit (module)	Teaching methods	Assessment methods
The deepening of knowledge in the field of nervous organization, deepening of comprehension of the mechanisms of certain psychic phenomena.	Lectures (problem-oriented teaching) with video demonstration, video materials shown on the subjects of nervous system organization and brain damage consequences. Case analysis in seminars, presentation on chosen neuropsychological topic, reading texts during the self-study.	Assessment of activities during the seminars, quality of paper presentation, final exam from the material of lectures.
Ability to analyse the human psyche from the natural science perspective.		
Ability to recognize and understand brain damage symptoms, disorders and their groups (agnosia, apraxia, amnesia, aphasia, reading, writing, constructive and other damages).		
Knowledge about the impact measures for psychic functions for restoration after local brain damages.		
Ability to substantiate the effectiveness of some impact measures by facts (evidence based research, assessment and intervention).		
Ability of deep understanding of deterministic relations between psyche, behaviour and neural processes and critically evaluate non-scientific or pseudo-scientific explanations of these relations.		

Topics	Contact work hours	Time and tasks for self-study

	Lectures	Consultations	Seminars	Workshops	Laboratory work	Practical training	**Total contact hours**	**Self-study**	**Tasks**
1. Introduction to neuropsychology. Definitions. Theoretical and practical meaning of neuropsychology. Neuropsychology, neurology, neurobiology, neurosciences, psychology and other sciences. Neuropathology (nerve diseases). The overview of the main concepts of neuropsychology. The areas and sections of human neuropsychology research.	**4**		**2**				**6**	**10**	Self-study of assigned literature.
2. The overview of nervous system structural and functional organization (renovation of knowledge). Some anatomic categories. The neuron – the main structural element of the nervous system. Synapses, mediators and potentials. The nervous system: the grey and white matter. Central, peripheral and autonomic nervous systems. The nerves of brain and spinal cord. Brain: cerebral hemisphere, interbrain, midbrain, hindbrain, medulla. Brain ventricles. The old and the new brain structures. The concept of triune brain. The lobes of the cerebral hemispheres. Afferent and efferent (centripetal and centrifugal) fibres. The cortex areas of cerebral hemispheres. The individual differences of brain. Phylogeny and ontogeny of nervous system. Brain functional blocks. Hierarchy of cortex zones and decreasing specificity. The topical organization of the projective zones. Lateralization of functions (functional asymmetry). Handedness and functional asymmetry. Psychophysical problem (body and soul, brain and psyche). Monism and dualism concepts. Informational theory. Connectionism.	**4**		**2**				**6**	**10**	Self-study of assigned literature.
3. Sources (methods) of receiving facts in neuropsychology and neuropsychological assessment. The concept of method and "knowledge source". The facts of neurophysiology, neuroanatomy, neurohistology and neurochemistry. Facts of clinical neurology. Neuroimaging: imaging of nerve structures and functions. Model research: electric stimulation, elimination and registration of potentials. EEG, event-related potentials, impulse activity. Computed tomography. Positron emission tomography (PET), functional magnetic resonance. Neuroimage interpretation. Psychological research methods in neurological clinic. Neuropsychological research features. Neuropsychological assessment. Overview of instruments of neuropsychological assessment. Neuropsychological tests and test sets (batteries). Practical aspects and problems of neuropsychological test application. Neuropshychological assessment of children. Neuropshychological assessment of older populations. Minimal brain dysfunctions.	**4**		**2**				**6**	**11**	Practice of using instruments of neuropsychological assessment. Self-study of assigned literature.

4. The history of neuropsychology (history of localization of functions in the brain). Periodisation of historical development of neuropsychology. Precivilization period. The early civilizations and the Antiquity. The period of ventricular localization. The search for the soul organ. The period of narrow (discrete) localization (phrenology). The period of research of brain local damages and formation of cytoarchitectonic maps (schemes). Modern period: the theory of dynamic localization of functions. Anti-localizationistic trends.	**4**		**2**				**6**	**11**	Preparation of presentation, self study
5. Classical fields of neuropsychology: Main groups of disorders after local damages of brain. Sensory and perceptual disorders: agnosias (visual, auditory, somatoagnosias). Alexia and dyslexia. Apraxias: definition, classification, kainds. Amusias. Agraphias. Disorders of attention, memory, emotions and reasoning after local damages of brain. Speech disorders (aphasias). Types of aphasia. Executive functions and brain. Learning disabilities and minimal brain dysfunctions. Theory of mind and brain.	**4**		**2**				**6**	**10**	Preparation of presentation, self study
6. Neurological diseases. The anomalies of development of nervous system. Tumours of nervous system. Epilepsy. Traumas and injuries. Vascular disorders of brain. The degenerative diseases of the nervous system. Neurological basis for the psychiatric illnesses. Neuropsychological analysis of some psychic disorders (neuropsychiatry): schizophrenia, bipolar disorder, neurosis, addictions.	**4**		**2**				**6**	**11**	
7. Developmental neuropsychology. Children's neuropsychology. The neurological foundation of the children's cognition, behaviour and personality disorders. The specific features of children's brain damage. Gerontological neuropsychology. The ageing brain problem.	**4**		**2**				**6**	**11**	Additional source 5: 469-477 p.
8. Neuro-rehabilitation (neuropsychological rehabilitation). The concept of neuroplasticity and its importance. Restoration of functions: disinhibition and vicariate. Restoration and training. Ways of neuropsychological rehabilitation forms. Coping with agnosia, aphasia, apraxia and other disorders.	**4**		**2**				**6**	**10**	
Total:	**32**		**16**				**48**	**84**	

Assessment strategy	**Weight (%)**	**Assessment period**	**Assessment criteria**
The general structure of the final grade (GP)	100	The final grade is to be announced during the 5 working days after the examination	***GP = [(0,2K + 0,3R) +0,5E]/2 + N, where GP – final grade, K–evaluation of the report on the read materials; R – seminar presentation; E – written examination grade; N – normalization grade added to round the score. The students who achieve 9.5 or more points get grade 10.***
Written examination (E)	50	During the examination session.	A test of 10 questions is made up of the material taught during the lectures and studied independently. The questions are

			both open- and close-ended, analogous weight, the evaluation of one question is from 0 to 1.
Report on the read materials (K) Up to 50 hours are appointed for reading assigned texts.	20	In the middle of the second month of the semester.	A test of 10 questions, the evaluation of one question is from 0 to 1, general from 0 to 10.
Individual presentation	20	The second part of semester	Students prepare a 15 min presentation about neuropsychological disorders and their assessment methods. The students are evaluated based on the presentation quality and individual reading done in preparation.

Author	**Publication year**	**Title**	**No. of periodical or vol. of publication**	**Publication place and publisher of Internet link**
REQUIRED LITERATURE				
1. Kolb, Bryan and Ian Q. Whishaw	2014	*An introduction to brain and behavior*		New York, NY : Worth Publishers
2. Rose, Nikolas S. and Joelle M. Abi-Rached	2013	*Neuro: the new brain sciences and the management of the mind*		Princeton [N.J.] ; Oxford, : Princeton University Press
3. Gurd J. M., Kiscka U., Marshal J.C. (Eds.).	2012	*The Handbook of Clinical Neuropsychology*		New York etc.: Oxford University Press, 2012. xviii, 894 p.
ADDITIONAL READING				
1. David Darby, Kevin Walsh	2013	*Walsh's neuropsychology :a clinical approach*		Edinburgh [etc.] : Elsevier,
2. Zillmer E. A., Spiers M.V., Culberson W.C.	2008	*Principles of Neuropsychology.*		Belmont: Thomson Wadsworth, XXVII, 574 p.
3. Banich M.T. and Compton R.J.	2012	*Cognitive Neuroscience.*		Wadsworth: CENGAGE learning, XXIII, 595.
4. Alastair D. Smith and Chris J.A. Moulin (Eds)	2012	*Neuropsychology*	1–6 volumes	Los Angeles [Calif.] [etc.] : SAGE
5. Donders J. and Hunter S. (Eds)	2010	*Principles and Practice of Lifespan Developmental Neuropsychology.*		Cambridge etc.: Cambridge University Press,. x, 487 p.
6. Mike R. Schoenberg, James G. Scott, editors	2011	*The little black book of neuropsychology: a syndrome-based approach*		New York [N.Y.] [etc.] : Springer
7. Ramune Dirvanskiene	2023	*How the brain works*		SP Neuropaskaitos
SUGGESTED READING				
1. Doidge N.	2012	*Save keičiančios smegenys. The Brain that Change Itself.*		V.: Kitos knygos Viking Penguin