



**Cognitive
Science**

FACULTY OF PSYCHOLOGY UW
INSTITUTE OF PHILOSOPHY UW



UNIVERSITY
OF WARSAW

Course syllabus

Course title	Intruduction to neuroanatomy
Instructor(s)	Marcin Leśniak, Ph.D.; Ewa Malinowska, Ph.D.; Aleksandra Bala, Ph.D.
Contact details	marcin.lesniak@psych.uw.edu.pl; ewa.malinowska@psych.uw.edu.pl; abala@psych.uw.edu.pl
Affiliation	Faculty of Psychology, University of Warsaw
Course format	seminar
Number of hours	30 hours
Number of ECTS credits	3 ECTS credits = 90 hours work load: 30 hours – class attendance 20 hours – reading weekly literature 40 hours – prepering for exams
Brief course description	This course is designed to familiarize students with functional anatomy of the nervous system (NS). We will focus on the structure and function of the cental NS, although the organisation of the peripheral NS also will be discussed. The clinical significance of different cerebral regions and neural connections will be explored by studing symptoms and anatomical bases of multiple neurological disorders. Students will consolidate their knowledge by doing control exercises in class, reading additional texts and watching educational films.
Full course description	<p>This course is designed to familiarize students with functional anatomy of the nervous system (NS). We will focus on the structure and function of the cental NS, although the organisation of the peripheral NS also will be discussed. The clinical significance of different cerebral regions and neural connections will be explored by studing symptoms and anatomical bases of multiple neurological disorders. Students will consolidate their knowledge by doing control exercises in class, reading additional texts and watching educational films.</p> <p>The course starts with basics of functional neuroanatomy including: macro- and microscopic organization of the nervous system, principles of neural transmission, anatomy and functioning of major parts of the central NS: spinal cord, brainstem, cerebellum, diencephalon and</p>

cerebrum. The structure and function of meningeal coverings, ventricular system and cerebrospinal fluid circulation are also discussed. The course then continues with the organisation of main sensory (visual, auditory, balance, somatosensory, olfactory, gustatory) and motor systems. Based on an understanding of normal neural connections and brain function, the anatomical bases for several neurological conditions are also explored.

Learning outcomes	By the end of the course students should: <ul style="list-style-type: none">- identify the anatomical and functional divisions of the nervous system (K_W05)- recognize the major features of the external and internal morphology of the adult brain and spinal cord (K_W05)- understand the organization of functional systems, sensory and motor (K_W05, K_W07, K_U07)- understand the organization of the higher cortical processes (K_W05, K_W07, K_U07)- knows the basic methods of studying the structural and functional aspects nervous system (K_W07)- understand clinical deficits following lesions within the CNS (K_W05, K_W07, K_U07)- be able to interpret basic brain images (K_W05, K_W07, K_U07)- build their understanding of functional neuroanatomy on their own through reading scientific literature (K_K01, K_K02)
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Learning activities and teaching methods	Students will experience lectures, discussions, and practice exercises in class. The lecturer's presentations will be supported with short educational videos, e.g. http://www.neuroanatomy.ca/videos.html
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List of topics/classes and bibliography	Recommended bibliography: <ol style="list-style-type: none">1. Text: Nolte, J. (2008, 6th edition). <i>The human brain. An introduction to its functional anatomy</i>. Philadelphia: Mosby Elsevier.2. Atlas: Felten, D. L., Shetty, A. N. (2003, 2nd edition). <i>Netter's atlas of neuroscience</i>. Philadelphia: Saunders.3. Kalat J. (2016). <i>Biological psychology</i>. Boston: Cengage. List of topics: <ol style="list-style-type: none">1. Introduction and organization of the nervous system Nolte: Chapter 1, 2, 32. Neurons and neuroglia Nolte: Chapter 73. Synaptic transmission between neurons Nolte: Chapter 84. Sensory receptors and the peripheral nervous system Nolte: Chapter 95. Spinal cord and the ascending and descending tracts Nolte: Chapter 106. Brainstem and the cranial nerves Nolte: Chapter 11, 12
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7. Cerebellum
Nolte: Chapter 20
 8. Cerebrum
Nolte: Chapter 3, 4, 5
 9. The structure and functional localization of the cerebral cortex
Nolte: Chapter 22
 10. Basal ganglia
Nolte: Chapter 19
 11. Limbic system
Nolte: Chapter 23
 12. Visual system
Nolte: Chapter 17
 13. Chemical senses of taste and smell
Nolte: Chapter 13
 14. Hearing and balance
Nolte: Chapter 14
 15. The overview of motor system
Nolte: Chapter 18
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Assessment methods and criteria **3 written exams (100%):** consisting of multiple choice and short answer questions. The final grade is the average of the grades of the partial tests.

Attendance rules Two unexcused absences are allowed. The 3rd unexcused absence may result in lowering the grade. More than three unexcused absences is equivalent to the course failure.

Prerequisites -

Academic honesty Students must respect the principles of academic integrity. Cheating and plagiarism (including copying work from other students, internet or other sources) are serious violations that are punishable and instructors are required to report all cases to the administration.

Remarks -
