

<b>General Information</b>			
<b>Course name</b> ÚINF/VKN/15	<b>Computational and cognitive neuroscience</b>	<b>ECTS Credits</b>	<b>5</b>
		<b>Semester</b>	<b>3</b>
<b>Aims</b>			
Advanced topics in study of the central nervous system and cognitive processes in human, with focus on computational concepts important in the study of cognitive and neural sciences. Prerequisite: Intro to Neuroscience.			
<b>Content</b>			
Selected topics in cognitive science (following up on Intro to Neuroscience). Overview of the methods of theoretical study in cognitive and neural science, including connectionistic, statistical and system-theory principles in modeling of cognitive processes and neural circuits. Selected models of the human visual and auditory systems; learning, thinking, attention, development and plasticity.			
<b>Assessment Methods and Criteria</b>			
<p>1. Attendance – students are expected to attend each class according to the schedule. Should the student miss three or more classes, he/she will not receive credits for the course no matter what his/her overall results are on the tests(s). The student must be on time for class.</p> <p>2. Active participation - students are required to do their best with respect to active participation in seminar sessions. Students are expected to bring their own copies of the required materials and complete the assigned tasks and exercises.</p> <p>3. Assessment – students will take 2 written tests. There will not be any re-take tests for the students who failed in one or both credit tests.</p> <p>Final assessment – scores of both tests will be summed up and it must be minimum 51%, which is a pass mark for the course. Otherwise, the students will not receive credits for the course. The final grade for the course will be based on the grading scale.</p>			
<p><b>Grading Scale (in %):</b></p> <p>A 91-100%</p> <p>B 81-90%</p> <p>C 71-80%</p> <p>D 61-70%</p> <p>E 51-60%</p> <p>FX 50 and less</p> <p><b>Grading System:</b></p> <p>The University recognizes the following six degrees for the evaluation of the study results:</p> <p>a) A – excellent (excellent results) (numerical value 1)</p> <p>b) B – very good (above average results) (1.5)</p> <p>c) C – good (average results) (2)</p> <p>d) D – satisfactory (acceptable results) (2.5)</p> <p>e) E – sufficient (results meet the minimum criteria) (3)</p> <p>f) FX –failed (requires further work) (4)</p>			

## Bibliography

HERTZ, J., KROGH, A. and PALMER R. G.: Introduction to the theory of neural computation. Addison-Wesley 1991

KANDEL, E. R., SCHWARTZ, J. H. and JESSELL, T.M.: Principles of Neural Science. McGraw-Hill, 2000

DAYAN, P. and ABBOTT, L. F.: Theoretical Neuroscience – Computational and Mathematical Modeling of Neural Systems. MIT Press, 2001

