

<b>General Information</b>			
<b>Course name</b> ÚINF/KPI1/15	<b>Coding and information transfer</b>	<b>ECTS Credits</b>	<b>4</b>
		<b>Semester</b>	<b>1, 3</b>
<b>Aims</b>			
To provide students knowledge of basic principles of information theory, coding and data compression			
<b>Content</b>			
Introduction to information theory: entropy, Markov models. Huffman coding, adaptive Huffman coding, applications. Arithmetic coding, dictionary techniques, applications. Lossless image compression. Scalar and vector quantisations. Differential encoding, delta modulation, subband coding, wavelets. Transform coding, DFT, DCT, application to JPEG. Analysis/synthesis schemes; fractal compression. Video compression.			
<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 recognises 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>			
<b>Bibliography</b>			

HANKERSON, D., HARRIS, G., JOHNSON, P.: Introduction to Information Theory and Data Compression, CRC Pr.,1998  
SAYOOD, K.: Introduction to Data Compression, Morgan Kaufmann, 1996

