Name: **Basics of Information Systems**		NEPTUN-code: *NIXBI1EBNE*	Number of periods/week: full-time: 2 lec + 0 sem + 1 lab
Credit: 4 *Requirement:* mid-term mark		*Prerequisite:* -	
Responsible: László CSINK, Ph.D.	*Position:* associate professor	*Faculty and Institute name:* John von Neumann Faculty of Informatics Institute of Applied Mathematics	

Way of assessment:
- mid-term exams

Competences

Course descrition:

Most important factors leading to the creation and evolution of information technology, its theoretical basics. Subject of information technology and its place among other scientific disciplines. Properties of information processing paradigms. Properties and analog and digital information processing. The von Neumann architecture, development possibilities. Core concepts of information theory. Basics of coding. Representation of information (numbers, characters, figures, music). Interpretation of minimum redundancy codes, most important coding algorithms. Dictionary-based coding, adaptive coding, its significance. Error-detection and -correcting codes, typical examples (SED-SEC, Hamming code).

Literature

Katalin Juhász dr. Nyakóné Dr., György Terdik, Piroska Biró, Zoltán Kátai Dr.: Introduction to Informatics, Digitális Tankönyvtár, 2011 (in Hungarian, electronic notes)
David J. C. MacKay: Information Theory, Inference and Learning Algorithms, Cambridge University Press; 1 edition, 2003