Óbudai University			Institute of Biomatics and Applied Artificial			
John von Neumann Faculty of Informatics			Intelligence			
Name and code: Basics of Information Systems, NIXB				SNE.	Credits: 4	
2022/23 1. semester						
Lecturer: Dr. Krisz	ztián Kósi					
Előtanulmányi felté	ételek:					
(kóddal)						
Weekly hours:	Lecture: 2	Seminar.:		Lab: 0	Consultation:	
Way of	Midtorm grado					
assessment:	Matering	aue				
Course description						
Goal: Presentation	of the most i	mportant factors	and	theoretical concepts of	the emergence, and	
development of in	formation tech	nology. The sub	oject a	nd place of informatio	on technology in the	
sciences. The basic	c concepts of in	formation theory	7. The	basic concepts of encod	ling. Interpretation of	
minimum redunda	incy codes, m	ajor coding alg	orithm	s. The dictionary-base	d data compression	
principle, the algorithms of the most commonly used code systems. The principle and significance of						
adaptive encoding. The principle of fault tolerance and error correction systems. The practical part will						
be organized as concerted lectures, in which representatives of the Faculty or industrial companies will						
present the actual results of a field of information technology.						
Course description: Concept of informatics. Emergence, development trends. Basic concepts of						
informatics. Concept and amount of information. Concept of entropy. Search theory. Concept of						
redundancy. Encoding process. Code tree. Prefix code. Statistics-based data compression. Dictionary-						
based data compression. Number systems. Conversion between number systems. Numeric,						
alphanumeric codes. Binary representation of integer and real numbers. Basics of fault tolerant						
systems. Error detecting and correcting. Soft computing techniques.						

Lecture schedule:				
Education week	Торіс			
1.	Concept of informatics. Emergence, development trends. Basic concepts of informatics.			
2.	Concept and amount of information. Number systems. Conversion between number systems.			
3.	Binary representation of integer and real numbers.			
4.	Byte orders. Numeric, alphanumeric codes.			
5	Concept of entropy. Search theory. Concept of redundancy.			
6.	Encoding process. Code tree. Prefix code.			
7.	Test 1.			
8.	Variable code length. Statistics-based data compression I.			
9.	Statistics-based data compression II.			
10.	Dictionary-based data compression.			
11.	Basics of fault tolerant systems. Error detecting and correcting.			
12.	Test 2.			
13.	Soft computing techniques.			
14.	Retake test.			

Midterm requirements

	Education week	Торіс	
	7	Test 1.	
	12	Test 2.	
	14	Retake	
	T	Netake	

Final grade calculation methods

Signature is denied in the case if the absence is more than 30% of the lessons. Based on the average of the tests the final grade is calculated as follows:

Achieved result	Grade
89%-100%	excellent (5)
76%-88<%	good (4)
63%-75<%	average (3)
51%-62<%	satisfactory (2)
0%-50<%	failed (1)

Retake rules

14th week, Retake the worst test, If the grade is faild (1), and the signature was not deined, can be a take a signature retake exam.

References

The Moodle page of the subject.