

Obuda University John von Neumann Faculty of Informatics		Institute of Applied Informatics		
Name and code: <i>Information Theory and Coding NAMIK1CENM</i> Credits: 3				
<i>2014/15 year I. semester</i>				
Subject lecturers: Tamas Ferenci PhD				
Prerequisites (with code):				
Weekly hours:	Lecture: 2	Seminar.: 0	Lab. hours: 2	Consultation: 0
Way of assessment:	Exam			
Course description:				
<i>Goal:</i> The aim of the course is to provide an introduction to the theory of communication (coding, data compression, security etc.).				
<i>Course description:</i> Introduction, basics of communication. Communication systems. Concept of information. Source coding, channel capacity. Channel coding. Error correction. Data compression and cryptography.				

Lecture schedule	
<i>Education week</i>	<i>Topic</i>
1.	Introduction and core concepts. Information.
2.	Variable length source coding I.
3.	Variable length source coding II.
4.	Variable length source coding III.
5.	The communication channel.
6.	Error correction I.
7.	Error correction II.
8.	Error correction III.
9.	Data compression, Mid-term exam.
10.	Data compression II.
11.	Data compression III.
12.	Cryptography I.
13.	Cryptography II.
14.	Cryptography III.

Mid-term requirements	
<i>Education week</i>	<i>Topic</i>
9.	Mid-term exam

Midterm requirements	
A pass grade is required at the mid-term exam as a prerequisite to write the final exam.	

Final grade calculation methods

Depending on the achieved result of the final exam (maximum: 50 points):

Achieved result	Grade
43-50	excellent (5)
37-42	good (4)
31-36	average (3)
25-30	satisfactory (2)
0-24	failed (1)

Type of exam

Written exam.

Type of replacement

Unwritten of failed mid-term exams can be retaken in the first 10 days of the exam period.

References

Obligatory:

Recommended:

Steven Roman: Coding and Information Theory, Springer, 1992.

Fazlollah M. Reza: An Introduction to Information Theory, Dover, 2012.

Other materials: -