

Óbudai University		Institute of Mechatronics and Vehicle Engineering		
Donát Bánki Faculty of Mechanical and Safety Engineering		Engineering		
Course name and Neptun-code: Basics of Informatics, BMXI1EHBNE, BMXIAYHBNE				Credits: 3
<i>Full time, 1st Semester of the Academic year 2020/21.</i>				
Faculties in which the subject is taught: BSc in Mechatronics				
Supervised by: Dr. Laufer Edit		Lecturers: Dr. Laufer Edit		
Prerequisites conditions: (Neptun Codes)				
Lessons per week:	Theory: 2	Practice (in Auditorium): 0	Lab: 0	Consultation:
Exam type (s,v,f):	exam			
The Syllabus				
Aim: Give an overview about the basic tools of Informatics, which are needed during engineering work.				
Schedule				
Weeks	Topics			
1.	Concept of informatics. Emergence, development trends. Basic concepts of informatics.			
2.	Concept, and quantity of information. Number systems. Transformation between number systems.			
3.	Negative numbers. Operations. Numeric, alphanumeric codes.			
4.	Real numbers. Operations.			
5.	Concept of entropy. Searching theory. Concept of redundancy.			
6.	Test I.			
7.	Information coding. Code tree. Prefix code. Variable code length.			
8.	Statistics-based data compression I.			
9.	Statistics-based data compression II.			
10.	Heuristic information-based methods. Dictionary-based data compression.			
11.	Holiday			
12.	Basics of fault tolerant systems. Error detecting and correcting			
13.	Test II.			
14.	Retake			
Requirements				
Weeks	Tests			
6	Test I.			
13	Test II.			
14	Retake			
<i>The evaluation criterias</i>				
Classes and tests will be held online due to the pandemic.				
All main areas of the course are evaluated by test papers. The course is to be considered successfully completed if and only if both tests are written with mark minimum 2 (40%), as a prerequisite for obtaining a signature .				
Based on the Study Regulations III.6.(4), the student may receive an offered grade if they have written both tests successfully.				
All matters which are not covered in this document, the Study and Examination Rules and the provisions of the Study Regulations, valid at Óbuda University, prevails.				
The semester closing method (method of examination: written, oral, testing, etc.).				
Online written exam				
Literature: Moodle electronic materials				
Quality Assurance:				