

<b>Óbudai University</b>		<b>Institute of Mechatronics and Vehicle Engineering</b>	
<b>Donát Bánki Faculty of Mechanical and Safety Engineering</b>		<b>Engineering</b>	
<b>Course name and Neptun-code: Basics of Informatics, BMXI1EHBNE, BMXIAYHBNE</b>			<b>Credits: 3</b>
<i>Full time, 1<sup>st</sup> Semester of the Academic year 2021/22.</i>			
Faculties in which the subject is taught: <b>BSc in Mechatronics</b>			
Supervised by: <b>Dr. Laufer Edit</b>		Lecturers: <b>Dr. Laufer Edit</b>	
Prerequisites conditions: (Neptun Codes)			
Lessons per week:	Theory: <b>2</b>	Practice (in Auditorium): <b>0</b>	Lab: <b>0</b> Consultation:
Exam type (s,v,f):	<b>exam</b>		
<b>The Syllabus</b>			
<b>Aim:</b> Give an overview about the basic tools of Informatics, which are needed during engineering work.			
<b>Schedule</b>			
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.	<b>Test I.</b>		
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.	Scientific Student Conference		
12.	Basics of fault tolerant systems. Error detecting and correcting		
13.	<b>Test II.</b>		
14.	<b>Retake</b>		
<b>Requirements</b>			
Weeks	Tests		
6	Test I.		
13	Test II.		
14	Retake		
<i>The evaluation criterias</i>			
Classes and tests will be held in person. Any change due to the pandemic situation will be announced in the Moodle course.			
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 <b>signature</b> .			
Based on the Study Regulations III.6.(4), the student may receive an <b>offered grade</b> 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			
<b>Literature:</b> Moodle electronic materials			
<b>Quality Assurance:</b>			