

Óbudai University <i>Donát Bánki Faculty of Mechanical and Safety Engineering</i>		Institute of Mechatronics and Vehicle Engineering		
Course name and Neptun-code:: Reliability of the Mechatronic Systems BMXMBE4MNE Credits: 3 <i>Full time, 2nd semester of the Academic year 2021/22.</i>				
Faculties in which the subject is taught: MSc in Mechatronics				
Supervised by:	Prof. Dr. Pokorádi, László		Lecturers:	Prof. Dr. Pokorádi, László
Prerequisites conditions: (Neptun Codes)	–			
Lessons per week::	Theory:: 2	Practice: 0	Lab: 0	Consultation: 0
Exam type (s,v,f):	mid-term mark			
The Syllabus				
<i>Aim:</i> Give an overview about the basic tools of reliability assessment of mechatronic equipment, which are needed during engineering work..				
Schedule				
Week	Topic			
1.	Theoretical Background			
2.	Reliability of Units			
3.	System Reliability I. – Systems with Simple Interconnections			
4.	Fault Tree Analysis			
5.	Event Tree Analysis			
6.	Bow-Tie Analysis			
7.	System Reliability II. – Systems with Complex Interconnections			
8.	Failure Mode and Effect Analysis			
9.	Sensitivity Analysis of System Reliability			
10.	Ishikawa Analysis			
11.	Pareto Analysis			
12.	Teszt			
13.	Consultation			
14.	Retake			
Literature:				
1. Igor A. Ushakov, Handbook of Reliability Engineering, John Wiley & Sons, 1994.				
2. Eric Bauer, Xuemei Zhang, and Douglas A. Kimber, Practical System Reliability Institute of Electrical and Electronics Engineers, Inc., 2009.				
3. Moodle electronic materials				

Budapest, 2022. január 14.

Pokorádi, László