

<b>Óbuda University</b>		Kandó Kálmán Faculty of Electrical Engineering			Department of Microelectronics and Technology	
Name and code of subject: <b>Interfaces, KEXIFBTBNE</b>				<b>Credits: 3</b>		
<b>Full-time course, spring semester</b>						
Course: Mechatronics engineer						
Responsible:	<b>Dr. Ürmös Antal</b>			Lecturer:	<b>Horváth Márk</b>	
Prerequisites:						
Contact hours per week:	Lecture: 1	Class discussion:	Laboratory: 1	Consultation:		
Evaluation:	<b>mid semester grade</b>					
<b>Subject description</b>						
The aim is to build a basic knowledge of microprocessor and microcontroller systems and simple data transfer methods.						
<b>Topics</b>				<b>Week</b>	<b>Lessons</b>	
Basic principles of computers and microprocessors.				<b>1.</b>	<b>1+1</b>	
Structure and operation of a microprocessor.				<b>2.</b>	<b>1+1</b>	
Structure and operation of a basic computer.				<b>3.</b>	<b>1+1</b>	
Programming of microprocessor systems; numer systems and data formats.				<b>4.</b>	<b>1+1</b>	
About some programming mistakes.				<b>5.</b>	<b>1+1</b>	
Basics of information theory and data transfer.				<b>6.</b>	<b>1+1</b>	
Line coding (baseband coding) methods.				<b>7.</b>	<b>1+1</b>	
Serial communication methods.				<b>8.</b>	<b>1+1</b>	
Basics of optical and radio communication.				<b>9.</b>	<b>1+1</b>	
Basics of computer networks.				<b>10.</b>	<b>1+1</b>	
Basics of microcontrollers.				<b>11.</b>	<b>1+1</b>	
Basics and details of 8b PIC microcontrollers. Programming practice.				<b>12.</b>	<b>1+1</b>	
Graphical programming enviroment: Labview				<b>13.</b>	<b>1+1</b>	
Test.				<b>14.</b>	<b>1+1</b>	
<b>Assessment and evaluation</b>						
The attendance of lectures is mandatory. A test is written in the last week from the whole semester's material.						
<b>Recommended literature:</b>						
<a href="http://mti.kvk.uni-obuda.hu">http://mti.kvk.uni-obuda.hu</a> Andrew S. Tanenbaum: Computer Networks Andrew S. Tanenbaum: Structured Computer Organization						