

BIOMEDICAL ENGINEERING DIRECTION, level II (master)
Specialization: Biomechatronics and Medical Equipment

			Hours							I							II							III										
	General courses		Type	Sum	L	E	L	P	S	L	E	L	P	S	E	ECTS	L	E	L	P	S	E	ECTS	L	E	L	P	S	E	ECTS				
W1	Information Systems in Medicine	IbioAIB>MS1ISM21O	g	30	15	0	15	0	0	15		15				2																		
W2	Telematics in Medicine	IbioAIB>MS1TM21O	g	30	15	0	15	0	0	15		15				2																		
W3	Biomaterials and Tissues Testing Methods	IbioAIB>MS1BTTM21O	g	30	15	0	15	0	0	15		15				2																		
W4	Tissue and genetic engineering	IbioAIB>MS3TGE21O	g	30	15	0	0	15	0															15			15			2				
W5	Modeling of Biological Structures and Processes	IbioAIB>MS1MBS21O	g	30	15	0	0	15	0	15			15			2																		
W6	Motor rehabilitation engineering	IbioAIB>MS1LRE21O	g	30	15	0	15	0	0	15		15				2																		
W7	Foreign language	IbioAIB>MS1-2FL21O	e	60	0	60	0	0	0		30					2		30					2											
W8	HES type elective course 1	IbioAIB>MS3HES121O	e	30	15	0	0	15	0															15			15			2				
W9	HES type elective course 2	IbioAIB>MS3HES221O	e	30	15	0	15	0	0															15		15				2				
W10	HES type elective course 3	IbioAIB>MS3HES321O	e	15	15	0	0	0	0															15						1				
	Specialization courses			315	135	60	75	45	0	75	30	60	15	0	0	12	0	30	0	0	0	0	2	60	0	15	30	0	0	7				
S1	Biomechatronics in terms of designing medical equipment	IbioAIB>MS1-2BDME21S	e	120	60	0	0	60	0	30			30		E	5	30			30		E	4											
S2	Control systems	IbioAIB>MS1CS21S	e	45	30	0	15	0	0	30		15				3																		
S3	Biomechanics and engineering support for the treatment of the spine	IbioAIB>MS2BES21S	e	30	30	0	0	0	0								30						1											
S4	Modeling in biomechanics	IbioAIB>MS2MB21S	e	60	30	0	30	0	0								30		30			E	4											
S5	Biomanipulators and bioprostheses	IbioAIB>MS3BB21S	e	45	15	0	0	30	0															15			30			2				
S6	Optimization methods	IbioAIB>MS2OM21S	e	45	15	0	30	0	0								15		30				3											
S7	Mechanics of destruction of materials and structures	IbioAIB>MS1MDMS21S	e	45	30	0	0	15	0	30			15			3																		
S8	Surgical robots and design of laparoscopic instruments	IbioAIB>MS2SRDL21S	e	45	15	0	0	30	0								15			30			2											
S9	Modeling in a virtual reality environment	IbioAIB>MS1MVRE21S	e	45	15	0	30	0	0	15		30				3																		
S10	Ergonomics of work stations	IbioAIB>MS3EWS21S	e	45	15	0	0	30	0															15			30			1				
S11	Engineering support for sports training	IbioAIB>MS2ESST21S	e	45	15	0	30	0	0								15		30				3											
S12	Designing in the CAD / CAM environment	IbioAIB>MS1CAD21S	e	45	15	0	0	30	0	15			30		E	4																		
S13	Biomechanics in implantology	IbioAIB>MS2BI21S	e	45	15	0	0	30	0								15			30			2											
	Other courses			660	300	0	135	90	0	120	0	45	75	0	0	18	150	0	90	90	0	0	19	30	0	0	60	0	0	3				
1	Elective Courses	IbioAIB>MS2-3EC21O	e	105	45	0	60	0	0								15		30				3	30		30				2				
2	Interim project	IbioAIB>MS2IP21M	e	45	0	0	0	45	0											45			3											
3	MS seminar	IbioAIB>MS23MSS21M	e	30	0	0	0	0	30																		30			1				
4	MS thesis	IbioAIB>MS3MST21M	e	0	0	0	0	0	0																					20				
				180	45	0	60	45	30	0	0	0	0	0	0	0	15	0	30	45	0	0	6	30	0	30	0	30	0	23				
	Sum			1155	480	60	270	180	30	195	30	105	90	0	0	30	165	30	120	135	0	0	27	120	0	45	90	30	0	33				
				Hours per week														28								30								19

Type g – general course

Type e – elective course

HES type 1 elective course in the field of intellectual property protection

HES type 2 elective course in the field of establishing and running a business

HES type 3 elective subject in the field of Healthcare Economics / Negotiation / Bioethics