BIOMEDICAL ENGINEERING DIRETION, level I (bachelor)
Specialization: Information Systems in Medicine

				Hours					I						II						III						IV						V						VI						VII					
	Basic Courses	**Course Code**	**Type**	**Sum**	**Lec**	**C**	**Lab**	**P**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**	**Lec**	**C**	**Lab**	**P**	**E**	**ECTS**
B1	Foreign Language	IBioAIB>S11/2/3/4FL	**E**	**120**		**120**				30				2		30				2		30				2		30			E	2																	
B2	Physical Education	IBioAIB>SI1/2PE21O	**E**	**60**		**60**				30						30																																	
B3	Mathematics	IBioAIB>SI1/2M21O	**B**	**180**	**90**	**90**			45	45			E	7	45	45			E	7																													
B4	Physics	IBioAIB>SI1P21O	**B**	**60**	**30**	**30**			30	30			E	6																																			
B5	Biomedical Data Acquisition	IBioAIB>SI1BDA21O	**B**	**45**	**15**		**30**		15		30			3																																			
B6	Material Science	IBioAIB>SI1MS21O	**B**	**60**	**30**		**30**		30		30			4																																			
B7	Basics of Manufacturing Techniques	IBioAIB>SI1BMT21O	**B**	**30**	**15**			**15**	15			15		2																																			
B8	Chemistry	IBioAIB>SI1Ch21O	**B**	**60**	**30**	**30**			30	30				3																																			
B9	Biochemistry	IBioAIB>SI2BCh21O	**B**	**30**	**15**		**15**								15		15			2																													
B10	Biophysics	IBioAIB>SI2BP21O	**B**	**60**	**30**		**30**								30		30			4																													
B11	Computer Programming	IBioAIB>SI2CP21O	**B**	**120**	**30**		**60**	**30**	15		30			3	15		30		E	4				30		2																						
B12	Statistics in Biomedicine	IBioAIB>SI2SM21O	**B**	**45**	**15**		**15**	**15**							15		15	15		4																													
B13	Electronics	IBioAIB>SI3EI21O	**B**	**60**	**30**		**30**														30		30		E	4																					
B14	Circuit Theory	IBioAIB>SI2CT21O	**B**	**30**	**15**	**15**									15	15			E	2																													
B15	Mechanics and Strength of Material	IBioAIB>SI2MSM21O	**B**	**60**	**30**	**30**									30	30			E	3																													
B16	Introduction to Anatomy and Physiology	IBioAIB>SI2IAP21O	**B**	**15**	**15**										15					2																													
B17	Medical Imaging Techniques	IBioAIB>SI3MIT21O	**B**	**45**	**15**		**15**	**15**													15		15	15	E	4																					
B18	Numerical Methods	IBioAIB>SI3NM21O	**B**	**60**	**15**		**30**	**15**													15		30	15		4																					
B19	Biomedical Signal Processing	IBioAIB>SI3BSP21O	**B**	**60**	**30**		**30**														30		30		E	4																					
B20	CAD Foundemantals	IBioAIB>SI4CAD21O	**B**	**60**	**30**			**30**																			30			30		5														
B21	Computer Aided Calculations	IBioAIB>SI3CAC21O	**B**	**30**	**15**		**15**														15		15			2																					
B22	Biomechanical Engineering	IBioAIB>SI4BE21O	**B**	**45**	**30**		**15**																				30		15		E	4														
B23	Introduction to Biomaterials	IBioAIB>SI3IB21O	**B**	**60**	**30**		**30**														30		30			4																					
B24	Automation & Control	IBioAIB>SI5AC21O	**B**	**75**	**30**	**15**	**30**																										30	15	30			5									
B25	Computer Graphics	IBioAIB>SI4CG21O	**B**	**45**	**15**		**15**	**15**																			15		15			2				15		2								
B26	Implants	IBioAIB>SI4I21O	**B**	**30**	**15**			**15**																			15			15		2														
B27	Artificial Organs	IBioAIB>SI6AO21O	**B**	**30**	**15**		**15**																															15		15			2					
B28	Legal, Ethical and Social Issues of Biomedical Engineering	IBioAIB>SI7LEBE21O	**B**	**15**	**15**																																							15					1
B29	Normalization and Certification of Medical Products	IBioAIB>SI7NCMP21O	**B**	**45**	**15**			**30**																																				15		30			3
	Specjalization Subjects			**1635**	**660**	**390**	**405**	**180**	**180**	**165**	**90**	**15**	**2**	**30**	**180**	**150**	**90**	**15**	**4**	**30**	**135**	**30**	**150**	**60**	**3**	**26**	**90**	**30**	**30**	**45**	**2**	**15**	**30**	**15**	**30**	**15**		**7**	**15**		**15**			**2**	**30**			**30**		**4**
S1	Algorithms & Data Structures	IBioAIB>SI4ADS21S	**S**	**30**	**15**		**15**																				15		15			2														
S2	Biosensors	IBioAIB>SI4B21S	**S**	**30**	**15**		**15**																				15		15			2														
S3	Medical Database Designing	IBioAIB>SI4MDD21S	**S**	**45**	**15**		**30**																				15		30			4														
S4	Biocybernetics	IBioAIB>SI6B21S	**S**	**45**	**15**		**15**	**15**																														15		15	15		3					
S5	Embedded Systems	IBioAIB>SI5ES21S	**S**	**75**	**30**		**30**	**15**																									30		30		E	5				15		1			
S6	Medical Electronic Equipment	IBioAIB>SI4MEE21S	**S**	**45**	**30**			**15**																			30			15	E	4														
S7	Mechatronics	IBioAIB>SI5M21S	**S**	**45**	**15**		**30**																										15		30		E	4								
S8	Reliability of Biomedical Systems	IBioAIB>SI7RBS21S	**S**	**30**	**15**		**15**																																				15		15			2
S9	Medical Image Analysis	IBioAIB>SI5MIA21S	**S**	**75**	**15**		**30**	**30**																									15		30		E	4						30			
S10	Bionics	IBioAIB>SI6BIO21S	**S**	**60**	**30**		**15**	**15**																														30		15	15	E	4					
S11	Modelling and Simulation of Muscoloskeletal System	IBioAIB>SI4MSMS21S	**S**	**45**	**15**		**30**																				15		30			3														
S12	Designing of Application with Graphical User Interface	IBioAIB>SI5DAGUI21S	**S**	**60**	**30**		**15**	**15**																									30		15	15		4								
S13	Programming in Python	IBioAIB>SI6PP21S	**S**	**15**			**15**																																15			1					
S14	Virtual Reality Modeling	IBioAIB>SI6VRM21S	**S**	**90**	**30**		**60**																															30		60		E	5					
S15	Network Technology in Medicine	IBioAIB>SI7NTM21S	**S**	**30**	**15**		**15**																																				15		15			2
S16	Introduction to graphical programming	IBioAIB>SI6IGP21S	**S**	**45**	**15**		**15**	**15**																														15		15	15		3					
S17	Computional Inteligence in Biomedical Enginieering	IBioAIB>SI7CIBE21S	**S**	**45**	**15**			**30**																																				15		30			3
	Elective Courses			**810**	**315**		**345**	**150**																			**90**		**90**	**15**	**1**	**15**	**90**		**105**	**15**	**3**	**17**	**90**		**120**	**90**	**2**	**19**	**45**		**30**	**30**		**7**
E1	Elective Courses	IBioAIB>SI5/7EC21S	**E**	**165**	**60**		**30**	**75**																									30			30		2				30		30	45		4
E2	Bachelor Project	IBioAIB>SI7BP21M	**E**	**45**				**45**																																						45		15
E3	HES I*	IBioAIB>SI3HES121O	**B**	**60**				**60**																60		4																					
E4	HES II*	IBioAIB>SI5HES221O	**B**	**60**				**60**																																			60		4			
E5	HES III*	IBioAIB>SI6HES321O	**B**	**45**				**45**																																						45		3			
E6	Practise	IBioAIB>SI6PR21O	**E**																																												6			
				375	**60**		**30**	**285**																**60**		**4**							**30**					**6**						**45**		**9**	**30**		**30**	**90**		**19**
				2820	**1035**	**390**	**780**	**615**	**180**	**165**	**90**	**15**	**2**	**30**	**180**	**150**	**90**	**15**	**4**	**30**	**135**	**30**	**150**	**120**	**3**	**30**	**180**	**30**	**120**	**60**	**3**	**30**	**150**	**15**	**135**	**120**	**3**	**30**	**105**		**135**	**135**	**2**	**30**	**105**		**60**	**150**		**30**
				Hours per week										**30**						**29**						**29**						**26**						**28**						**25**						**21**

Valid from: **2021/2022** **Type B – Basic course,** **Type E – elective course,**