BIOMEDICAL ENGINEERING, 1st CYCLE (BACHELOR)
SCOPE OF DIPLOMA: BIOMATERIALS AND TECHNOLOGIES FOR MEDICINE

		Hours						I							II							III							IV							V							VI							VII						
	Basic courses	**Total**	**W**	**C**	**L**	**P**	**S**	**W**	**C**	**L**	**P**	**S**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**S**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**S**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**S**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**S**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**S**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**S**	**ECTS**
1	Physical Education	**60**		**60**					30							30																																								
2	Foreign Language	**120**		**120**					30					2		30					2		30					2		30				E	2																				
3	Techniques And Tools For Communication	**30**	**15**	**15**				15	15					3																																								
4	Introduction To Entrepreneuship	**30**	**30**												30						2																																		
5	Intellectual Property Protection	**15**	**15**																			15						1																											
6	Mathematics For Engineers	**30**		**30**					30					3																																								
7	Mathematics	**150**	**60**	**90**											30	60				E	8	30	30				E	3																											
8	Informatics And Basics Of Programming	**30**	**10**		**20**			10		20			E	3																																								
9	Engineering Graphics	**30**			**30**					30				3																																								
10	Fundamentals Of Biomedical Engineering	**120**	**40**		**80**			40		80			E	14																																								
11	Physics	**105**	**30**	**60**	**15**											30					2	15	30					3	15		15				5																			
12	Introduction to Anatomy and Physiology	**30**		**30**																			30					2																											
13	Biomedical Data	**60**			**60**												60			E	5																																	
EE	Engineering Technologies In Medicine And Sports	**60**	**30**		**30**										30		30			E	5																																	
15	Iintroduction To Problem Based Learning	**45**				**45**												45			6																																	
16	Elective Course	**150**	**150**												30						2	30						2	30						2	30						2	30						2						
17	Practice																																																4						
18	Bachelor Project	**45**				**45**																																														45		15
	BIOMATERIALS AND TECHNOLOGIES FOR MEDICINE	**1110**	**380**	**405**	**235**	**90**		**65**	**105**	**130**				**28**	**120**	**150**	**90**	**45**			**32**	**90**	**120**				**13**	**45**	**30**	**15**				**9**	**30**						**2**	**30**						**6**				**45**		**15**
1	Basics of mechanics and strength of materials	**45**	**15**		**15**	**15**																15		15	15		E	4																											
2	Numerical methods in practice	**30**			**30**																										30				2																				
3	Basics of biomaterials science	**45**	**15**		**30**																	15		30			E	4																											
4	Biomaterials and materials for medicine	**105**	**45**		**60**																	15		15				2	30		45			E	6																				
5	Biochemistry	**30**	**10**		**20**																	10		20				3																											
6	Designing of medical devices	**150**	**30**	**90**	**30**																								15	90				E	6	15		30				4													
7	Basics of manufacturing methods	**45**	**15**		**15**	**15**																							15		15	15			3																				
8	Methods of testing materials for medicine	**60**	**30**		**30**																								30		30				4																				
9	Modern manufacturing technologies	**105**	**15**		**30**	**45**	**15**																													15		30	45	15	E	9														
10	Implants and implantation systems	**60**	**30**		**15**	**15**																																					30		15	15		E	4							
11	Surgical and treatment instruments	**65**	**30**		**15**	**15**	**5**																																				30		15	15	5		4							
12	Hospital and rehabilitation equipment	**45**	**15**			**30**																																					15			30			3							
13	Physical methods of tissue stimulation	**45**	**15**		**15**		**15**																																											15		15		15	2
14	Medical imaging	**30**	**15**	**15**																																														15	15				2
15	Medical device certification issues	**60**	**30**			**30**																																												30			30		3
16	Medical statistics	**30**		**30**																																															30				2
17	Sterilization of medical devices	**60**	**30**		**15**	**15**																																												30		15	15		3
18	Biomechanics of Sports Injuries	**45**	**15**			**30**																														15			30			2													
19	Certification of medical devices	**45**	**15**			**30**																														15			30			2													
20	CAS Systems	**90**	**15**		**75**																	15		30				4										45				4													
21	PBL I	**125**				**125**																																	30			2				95			6						
22	PBL II	**80**				**80**																																								50			3				30		3
23	Basics of shaping the properties of materials for medicine	**60**	**30**		**30**																															30		30			E	5													
24	Surface engineering of medical devices	**60**	**30**		**30**																																						30		30			E	4						
		1515	**445**	**135**	**455**	**445**																**70**		**110**	**15**			**17**	**90**	**90**	**120**	**15**			**21**	**90**		**135**	**135**			**28**	**105**		**60**	**205**	**5**		**24**	**90**	**45**	**30**	**75**	**15**	**15**
	Total	**2625**	**825**	**540**	**690**	**535**		**65**	**105**	**130**				**28**	**120**	**150**	**90**	**45**			**32**	**160**	**120**	**110**	**15**			**30**	**135**	**120**	**135**	**15**			**30**	**120**		**135**	**135**			**30**	**135**		**60**	**205**	**5**		**30**	**90**	**45**	**30**	**120**	**15**	**30**
		Tatal/Hours per week						**300**						**20**	**405**						**27**	**405**						**27**	**405**						**27**	**390**						**26**	**405**						**27**	**300**					**19**

Programme valid from the academic year: 2023/2024