BIOMEDICAL ENGINEERING, 1st CYCLE (BACHELOR)
SCOPE OF DIPLOMA: MEDICAL INFORMATICS AND ARTIFICIAL INTELLIGENCE

		Hours					I						II						III						IV						V						VI						VII					
	Basic courses	**Total**	**W**	**C**	**L**	**P**	**W**	**C**	**L**	**P**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**E**	**ECTS**	**W**	**C**	**L**	**P**	**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																													
14	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
	MEDICAL INFORMATICS AND ARTIFICIAL INTELLIGENCE	**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**
M1	**Fundamentals of Human Sciences**																																														
1	Introduction to Medical Sciences	**15**	**15**																15					1																							
2	Radiological Anatomy	**15**	**15**																						15					1																	
M2	**Informatics**																																														
3	Computer Programming	**60**	**30**		**30**														30		30		E	5																							
4	Algorithms and Data Structures	**30**	**15**		**15**														15		15			3																							
5	Numerical Methods	**60**	**30**		**30**																				30		30		E	4																	
6	Object-Oriented Programming	**75**	**15**		**30**	**30**																			15		30			3										30		2					
7	Computer-Aided Calculations	**60**			**30**	**30**																					30			2				30		2											
8	Databases and Medical Data Archiving	**45**	**15**		**30**																										15		30			3											
9	Computer Networks and Communication in Medicine	**60**	**15**		**30**	**15**																															15		30	15		4					
10	Design of Applications with Graphical User Interface	**90**	**30**		**30**	**30**																																					30		30	30	4
11	Graphical Programming	**45**	**15**		**15**	**15**																																					15		15	15	3
12	Computer Graphics	**30**	**15**		**15**																																						15		15		2
M3	**Biomedical Data Processing**																																														
13	Statisitics in Data Analysis	**30**	**15**		**15**														15		15			3																							
14	Biomedical Data Acquisition	**30**				**30**																30		2																							
15	Medical Imaging Techniques	**60**	**30**		**15**	**15**																			30		15	15	E	4																	
16	Medical Signal Processing	**30**	**15**		**15**																				15		15			2																	
17	Medical Image Analysis	**90**	**30**		**30**	**30**																									30		30		E	5				30		2					
18	Data Mining	**75**	**15**		**30**	**30**																									15		30			3				30		2					
19	Bioimage Informatics	**60**	**15**		**15**	**30**																															15		15	30		3					
M4	Artificial Intelligence																																														
20	Introduction to Artificial Intelligence	**30**	**15**		**15**																				15		15			2																	
21	Machine Learning	**60**	**15**		**15**	**30**																									15		15	30	E	5											
22	Text Mining	**60**	**15**		**15**	**30**																									15		15	30		5											
23	Deep Learning	**60**	**15**		**15**	**30**																															15		15	30	E	4					
24	Introduction to Computational Oncology	**60**	**15**		**15**	**30**																															15		15	30	E	4					
M5	Medical Equipment																																														
25	Circuit Theory	**30**	**15**		**15**														15		15		E	3																							
26	Introduction to Electronics	**45**	**30**		**15**																				30		15			3																	
27	Embedded Systems	**45**	**15**		**30**																										15		30			3											
28	Electronic Medical Equipment	**45**	**30**			**15**																															30			15		3					
29	Reliability of Biomedical Systems	**30**	**15**		**15**																																						15		15		2
30	Artificial Organs	**30**	**15**		**15**																																						15		15		2
M6	Other courses																																														
31	Scientific Text Typesetting	**30**	**15**		**15**																										15		15			2											
32	Foreign Language in Biomedical Engineering	**30**		**30**																																								30			2
		1515	**540**	**30**	**555**	**390**													**90**		**75**	**30**		**17**	**150**		**150**	**15**		**21**	**120**		**165**	**90**		**28**	**90**		**75**	**210**		**24**	**90**	**30**	**90**	**45**	**15**
	Total	**2625**	**920**	**435**	**790**	**480**	**65**	**105**	**130**			**28**	**120**	**150**	**90**	**45**		**32**	**180**	**120**	**75**	**30**		**30**	**195**	**30**	**165**	**15**		**30**	**150**		**165**	**90**		**30**	**120**		**75**	**210**		**30**	**90**	**30**	**90**	**90**	**30**
		Total/Hours per week					**300**					**20**	**405**					**27**	**405**					**27**	**405**					**27**	**405**					**27**	**405**					**27**	**300**				**20**

Programme valid from the academic year: 2023/2024