Transylvania University of Braşov, Romania

Study program: Medical engineering

Faculty: Product Design and Environment
Study period: 4 years (bachelor)
Academic year structure: 2 semesters (14 weeks per semester)
Examination sessions (two): winter session (January/February)
summer session (June/July)

Courses per years (C= course; S = seminar; L = laboratory; P = project)

1st Year

No. crt.	Course	Code	Language of instruction	1st Semester					2nd Semester				
				C	S	L	P	Cred	C	S	L	P	Cred
01	Mathematical analysis	MKTAM01	Romanian	2	3	-	-	5					
02	Introduction in biomedical engineering	IBmed	Romanian	1	-	2	-	4					
03	Computer assisted graphics I	DIDT01	Romanian	2	-	2	-	5					
04	Chemistry	MKCTH01	Romanian	2	-	1	-	4					
05	Materials science	MKTSM01	Romanian	3	-	2	-	5					
06	Computers programming and programming languages I	MKTPC01	Romanian	1	-	3	-	5					
07	Linear algebra, analytical and differential geometry	DIAGAD	Romanian						2	2	-	-	4
08	Computer assisted graphics II	MKTDT02	Romanian						2	-	2	-	5
09	Physics I	MKTFZ02	Romanian						2	-	1	-	4
10	Electro-technics	MKEA02	Romanian						2	-	1	-	3
11	Applied mechanics	MKTMC02	Romanian						3	2	-	-	5
12	Computers programming and programming languages I	MKTPC02	Romanian						1	-	2	-	4
13	Communication	TDCO	Romanian						1	-	1	-	3
14	English	LE01/ LE02	Romanian	1	1	-	-	2	1	1	-	-	2
	French	LF01/ LF02	Romanian										
	German	LG01/LG02	Romanian										
	Spanish	LS01/LS02	Romanian										
15	Physical education and sport	EF01/EF02	Romanian	-	1	-	-	1	-	1	-	-	1

2nd Year

No. crt.	Course	Code	Language of instruction	3rd Semester					4th Semester				
				C	S	L	P	Cred	C	S	L	P	Cred
01	Applied computer science	ANUM	Romanian	2	-	1	-	4					
02	Optoelectronics	OPEL	Romanian	2	-	2	-	5					
03	Special mathematics and statistics	DIMS03	Romanian	2	2	-	-	4					
04	Electronics	ELEC	Romanian	2	-	1	-	4					
05	Biomechanics	BMEC	Romanian	2	1	2	-	6					
06	Strength of materials	DIRM03	Romanian	3	1	1	-	5					
07	Mechanical engineering I	EIM	Romanian						2	-	1	-	4

08	Numerical methods	MNUM	Romanian						2	-	2	-	4
09	Mechanisms and fine mechanics elements	MCMF	Romanian						3	-	1	1	5
10	Biomaterials	BMAT	Romanian						2	-	2	-	4
11	Physics II	THPL	Romanian						2	-	1	-	3
12	Histo-physiology and pathologic anatomy	ANA1/ ANA2	Romanian						3	-	2	-	4
13	Practical stage	PRAC1	Romanian						3 weeks ×30 hours = 90 hours				4
14	English	LE03/ LE04	Romanian	1	1	-	-	2	1	1	-	-	2
	French	LF03/ LF04	Romanian										
	German	LG03/LG04	Romanian										
	Spanish	LS03/LS04	Romanian										
15	Physical education and sport	EF03/EF04	Romanian	-	1	-	-	1	-	1	-	-	1

3rd Year

No. crt.	Course	Code	Language of instruction	5th Semester					6th Semester				
				C	S	L	P	Cred	C	S	L	P	Cred
01	Basic technical thermodynamics	TMFL	Romanian	3	-	2	-	5					
02	Programmable numerical systems I	MLCNc	Romanian	2	-	1	-	3					
03	Programmable numerical systems I	MLCNc	Romanian	-	-	-	1	2					
04	Medical informatics	INME	Romanian	2	-	1	-	4					
05	Medical optics and optical equipment	OMEO	Romanian	2	-	1	-	4					
06	Actuation systems (hydro-pneumatic and electric)	SIAC	Romanian	2	-	2	-	4					
07	Mechanical engineering II	EIMO	Romanian	2	-	2	-	4					
08	Data acquisition and monitoring	SENZ	Romanian	2	-	2	-	4					
09	Microprocessors	MICR	Romanian						2	-	2	-	4
10	Medical electronics	EMED	Romanian						2	-	2	-	4
11	Laboratory testing apparatus	APLA	Romanian						2	-	2	-	4
12	Assisted design	PRAC	Romanian						2	-	2	-	4
13	Medical equipment reliability	FIAM	Romanian						2	-	2	-	4
14	Medical equipment ergonomics	ERGO	Romanian						2	-	1	-	2
15	Measurements and instrumentation I	MASI	Romanian						2	-	2	-	4
16	Practical stage	PRAC1	Romanian						3 weeks ×30 hours = 90 hours				3

4th Year

No. crt.	Course	Code	Language of instruction	7 th Semester					8th Semester				
				C	S	L	P	Cred	C	S	L	P	Cred
01	Measurements and instrumentation II	MASI2	Romanian	1	-	2	-	3					
02	Image treatment, artificial vision and medical imagistic	PIVIM	Romanian	2	-	2	-	4					
03	Micro and nano- systems technology	TMNS	Romanian	2	-	1	1	6					
04	Prosthetic engineering I	IPOR I	Romanian	2	-	1	2	6					
	Biological systems	EPAPO											
05	Construction and maintenance of medical apparatus	CMAB	Romanian	2	-	1	2	6					
	Biomechanical systems' modeling and simulation	MSSB	Romanian										

06	Programming environments for microcontrollers	MPMC	Romanian	2	-	2	1	5					
	CAD/CAM for medical apparatus	CMAB											
07	Marketing and management	MKMG	Romanian						1	1	-	-	3
08	Biomedical systems mechatronics	MTSB	Romanian						2	-	3	-	5
09	Medical equipment automation	AEM	Romanian						2	-	2	-	4
10	Rehabilitation engineering	IR	Romanian						2	-	2	-	4
	Prosthetic engineering II	IPOR II											
11	Intensive care apparatus	APTI	Romanian						3	-	2	-	5
	Surgery equipment	BO	Romanian										
12	Evaluation and certification of medical apparatus	ECAB	Romanian						2	2	-	-	4
	Data bases and statistics	BDPS	Romanian										
13	Thematic project (10 weeks×2 hours + 4 weeks×28 hours)	PTEM	Romanian						-	-	-	2	2
14	Practical stage for diploma project	PRAC3	Romanian						2 weeks ×30 hours = 60 hours				3