

# Transilvania University of Braşov, Romania

## Study program: Mechatronic Systems for Industry and Medicine

Faculty: Product Design and Environment  
 Study period: 2 years (master)  
 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)

### 1<sup>st</sup> Year

No. crt.	Course	Code	Language of instruction	1 <sup>st</sup> Semester					2 <sup>nd</sup> Semester				
				C	S	L	P	Cred	C	S	L	P	Cred
01	Complements of Physics and Applied Mathematics	CFMA	Romanian	2	1	-	-	6					
02	Finite Element Analysis of Engineering Systems	AFEM	Romanian	2	-	1	-	6					
03	Modelling And Simulation of Bio systems	MSBI	Romanian	2	-	2	-	6					
04	Advanced Methods of Quality Inspection	MAIC	Romanian	2	2	-	-	6					
05	Experimental and Investigative Methods in Industry and Medicine	MEIM	Romanian						2	-	2	-	6
06	Robotic Systems for Industry and Medicine	SRIM	Romanian						2	-	-	2	6
07	Precision Micro-Electro-Mechanical Systems	MEMS	Romanian						2	-	2	-	6
08	Protocols and Communication Interfaces in Mechatronic Systems	PICS	Romanian						2	-	2	-	6
09	Practical Activity and/or Scientific Research	PRCI	Romanian	12X14weeks=16 8 hours				6					
10	Practical Activity and/or Scientific Research	PRCII	Romanian						12X14weeks=16 8 hours				6

### 2<sup>nd</sup> Year

No. crt.	Course	Code	Language of instruction	3 <sup>rd</sup> Semester					4 <sup>th</sup> Semester				
				C	S	L	P	Cred	C	S	L	P	Cred
	<b>Optional direction I: Mechatronic Systems for Industry</b>												
01	Information Systems Management: Ethics And Academic Integrity	MPCM	Romanian	2	-	-	1	5					
02	Modern Manufacturing and Assembly Systems	SMFA	Romanian	2	-	1	-	5					
03	CAD /CAM Systems in Flexible Manufacturing	SCAD	Romanian	1		2		5					
04	Systems for Services Automation	SASV	Romanian	2		2		5					
05	Control of Processes	CCPR	Romanian	1		2		5					

06	Information Acquisition and Processing, Virtual Instrumentation	APIV	Romanian						2	-	1	-	6
07	Adaptive command systems	SICA	Romanian						2	-	1	-	6
08	Advanced mechatronic systems in the automotive industry	SAMA	Romanian						2	-	2	-	6
09	Practical Activity and/or Scientific Research	APCS	Romanian	12X14weeks=168 hours				4	8 X14 weeks=112 hours				4
10	Dissertation Thesis Development	ELDS	Romanian						6X14weeks=84 hours				8
<b>Optional direction II: Mechatronic Systems in Medicine and Optometry</b>													
01	Information Systems Management: Ethics And Academic Integrity	MPCM	Romanian	2	-	-	1	5					
02	Public Health Protection and Safety	SMFA	Romanian	2	-	1	-	5					
03	Optometry and Clinical Diagnosis	OPAC	Romanian	1		2		5					
04	Complex Systems for Visual Investigation	SCBS	Romanian	2		2		6					
05	Preventive School Optometry	OSPI	Romanian	1		2		5					
06	Complementary Methods of Experimental Bio systems Analysis	MCAB	Romanian						2	-	1	-	6
07	Computerized Management of Patients and of Medical and Optometric Engineering Systems	MCPS	Romanian						2	-	1	-	6
08	Experimental Optometry and Low Vision Prosthetics	OEPO	Romanian						2	-	2		6
09	Practical Activity and/or Scientific Research	APCS	Romanian	12X14weeks=168 hours				4	8 X14 weeks=112 hours				4
10	Dissertation Thesis Development	ELDS	Romanian						6X14weeks=84 hours				8