

Transilvania University of Braşov, Romania

Study program: Mechatronics

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.	Course	Code	1 st Semester					2 nd Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Mathematical Analysis	MKTAM01	2	3	-	-	5					
02	Chemistry	MKTCH01	2	-	1	-	4					
03	Computer Aided Graphics I	DIDT01	2	-	2	-	5					
04	Computer Programming and Programming Languages I	MKTPC01	1	-	2	-	4					
05	Mechatronic Systems I	SIMT01	2	2	-	-	5					
06	Science and Engineering of Materials	MKTSM01	3	-	2	-	5					
07	Linear Algebra, Analytic Geometry and Differential Equations	DIAGAD						2	2	-	-	4
08	Computer Aided Graphics II	MKTDT02						2	-	2	-	5
09	Computer Programming and Programming Languages II	MKTPC02						1	-	2	-	4
10	Physics	MKTFZ02						2	-	1	-	4
11	Mechanics	MKTMC02						3	2	-	-	5
12	Communication	TDCO						1	-	1	-	3
13	Electrotechnics	MKEA02						2	-	1	-	3
14	Foreign Languages: English	LE01/LE02	1	1	-	-	2	1	1	-	-	2
	Foreign Languages: French	LF01/LF02										
	Foreign Languages: German	LG01/LG02										
	Foreign Languages: Spanish	LS01/LS02										
15	Physical Education and Sports I/II	EF01/EF02	-	1	-	-	1	-	1	-	-	1

2nd Year

No.	Course	Code	3 rd Semester					4 th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Special Mathematics and Mathematical Statistics	DIMS03	2	1	-	-	4					
02	Strength of Materials	DIRM03	3	1	1	-	5					
03	Applied Informatics	ANUM	2	-	2	-	5					
04	Electronics	ELEC	2	-	2	-	4					
05	Biomechanics	BMEC	2	-	2	-	5					
06	Optoelectronics	OPEL	2	-	2	-	5					

07	Digital Electronics	ELDI						2	-	1	-	3
08	Mechanisms and Machine Elements	DIOM04						3	-	1	1	5
09	Processing Technologies	THPL						2	-	2	-	4
10	Numerical Methods	MNUM						2	-	2	-	4
11	Fundamentals of Mechatronic Systems	BSMT						3	-	2	-	5
12	Techniques and Measurement Systems	TCDI						2	-	1	-	3
13	Domain Practice	PRAC1						3 weeksx30h=90h				4
14	Foreign Languages: English	LE03/LE04	1	1	-	-	2	1	1	-	-	2
	Foreign Languages: French	LF03/LF04										
	Foreign Languages: German	LG03/LG04										
	Foreign Languages: Spanish	LS03/LS04										
15	Physical Education and Sports III/IV	EF03/EF04	-	1	-	-	1	-	1	-	-	1

3rd Year

No.	Course	Code	5 th Semester					6 th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Working Machines and CNC	MLCnc	2	-	2	-	4					
02	Working Machines and CNC - Project	MLCnp	-	-	-	1	2					
03	Drive Systems	SIAC	2	-	2	-	4					
04	Mechatronic Systems II	SIMT02	2	-	1	2	5					
05	Fundamentals of Automated Systems	BSAT	2	-	2	-	5					
06	Sensors and Sensorial Systems	SEnz	2	-	2	-	5					
07	Heat Engineering and Fluid Mechanics	TMFL	3	-	2	-	5					
08	Medical Apparatus	APLAc						2	-	1	-	3
09	Measurement and Instrumentation	MASic						2	-	1	-	3
10	Computer-Aided Design	PRAC						2	-	2	-	4
11	Microcontrollers, Microprocessors	MICR						2	-	2	-	4
12	Manufacture and Assembly in Mechatronics using Flexible Systems	FMMT						2	-	2	-	4
13	Programming Industrial Robots	PRI						2	-	2	-	4
14	PLCs (Programmable Logic Controllers)	AUTP						2	-	2	1	4
15	Specialized Practice II	PRAC2						3 weeks x 30h =				4

4th Year

No.	Course	Code	7 th Semester					8 th Semester (10 weeks)				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Micro-and Nano Systems Technology	TMNS	3	-	1	1	6					
02	Image Processing, Artificial Vision and Medical Imaging	PIVI	2	-	2	-	4					
03	Microcontrollers Programming	MPMC	2	-	2	-	4					
04	Microcontrollers Programming - Project	MPMP	-	-	-	1	2					
05	Artificial Intelligence	IART	2	-	2	-	4					
06	Pneumatic and Hydraulic Automation	APHI	2	-	2	-	5					
	Pneutronics and Hydronics	PNHI										
07	Acquisition Systems and Interfaces	SAIN	2	-	2	-	5					
	Signals and Systems	SESI										

08	Mechatronics of Biomedical Systems	MTSB						2	-	2	-	4
09	Databases and Statistical Processing	BDPS						2	-	2	-	3
10	Coordinate Measuring Machines	MMCO						2	-	2	-	3
11	General Economy	ECOG						1	1	-	-	2
12	Mechatronics in Agriculture	MTAG						1	-	1	-	2
	Automotive Mechatronics	MAUT										
13	CAD / CAM / CIM	PCAM						2	-	1	1	4
	CNC Programming	PMCN										
14	Automatic Control and Service Industry	ACSI						2	-	2	-	4
	ATMs and Commercial	AUBC										
15	Elaboration of the Diploma Project	PTEM						-	-	-	4	4
16	Practice for Diploma Project	PRAC3						60 +36 hours				4