Transilvania University of Braşov, Romania

Study program: Virtual Engineering in Automotive Design

Faculty: Mechanical Engineering
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

1st Year

No. crt.	Course	Code	Semester I					Semester II				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Multi-physics simulations	VAD.I.01	1			1	7					
02	CAD and Graphics programming	VAD.I.02	2		1	1	6					
03	Multi-body systems dynamics: Theory and Simulation	VAD.I.03	2		1	1	7					
04	Tribology	VAD.I.04	2		2		6					
05	Practice for Research and Development I	VAD.I.05				12	4					
06	Advanced simulation in automotive design	VAD.II.01						2			2	7
07	Product Development and Simulation	VAD.II.02						1			1	4
08	Finite Element Analysis in Automotive Design	VAD.II.03						2			1	6
09	Virtual and augmented reality in automotive design and maintenance	VAD.II.04						1		1	1	6
10	Practice for Research and Development II	VAD.II.05									12	4
11	Advanced Mechanical Transmissions in Automotive Engineering	VAD.II.06a						1		1		3
	Fundamentals in Electronics and Computers	VAD.II.06b										

2nd Year

No. crt.	Course	Code	Semester III					Semester IV				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Experimental systems for testing the automotive elements	VAD.III.01	1		1		4					
02	Virtual Instrumentation	VAD.III.02	1		1		6					
03	Practice for Research and Development III	VAD.III.03				12	4					
Direction of specialization: Virtual Engineering in Automotve Mechanical Design												
04a	Automotive energy management	VAD.III.04b	2			2	6					
05a	Automotive mechatronics systems	VAD.III.04a	1		1		4					

No	Module	Code								
06a	Virtual manufacturing in automotive technologies	**VAD.III.05a**	2		2	6				
	Direction of scientific research: **Virtual Engineering in Electrical and Hybrid Automotive Design**									
04b	Vehicle Dynamic Simulation of Systems in MATLAB C++	**VAD.III.03b**	2		2	6				
05b	Virtual crash modeling and testing	**VAD.III.03a**	2	2		6				
06b	Sensory and Control Systems for Vehicles	**VAD.III.05b**	1	1		4				
07	Practice for Research and Development IV	**VAD.IV.01**							12	5
08	Research and/or Development Activities for Dissertation Accomplishment	**VAD.IV.02**						9		13
09	Dissertation Accomplishment	VAD.IV.03						4		10
10	University ethics	VAD.IV.04					1			2