

## Academic Syllabus

### 1<sup>st</sup> YEAR

No.	Course name	CODE	Hours per week								Type of Evaluation								ECTS credits					
			Sem. I				Sem. II				E		C		V		P		S I	S II				
			C	S	L	P	C	S	L	P	S I	S II	S I	S II	S I	S II	S I	S II						
1.	Advanced mathematics for automotive engineering	UP.02.F.01.O.20.01	1	1																		5		
2.	Applied mechanics	UP.02.F.01.O.20.02	2	1																			6	
3.	Applied thermodynamics and energy conversion	UP.02.F.01.O.20.03	2	1																			6	
4.	Documentation and capitalization of information	UP.02.C.01.O.20.04	1	1																			4	
5.	Operations management	UP.02.C.01.O.20.05	1	1																			6	
6.	English language	UP.02.C.01.O.20.06		2																			3	
7.	Materials and sustainable manufacturing	UP.02.D.02.O.20.07						1		1													4	
8.	Road vehicle dynamics	UP.02.D.02.O.20.08						2		1													6	
9.	Engine calibration	UP.02.D.02.O.20.09						2		1													8	
10.	Transmissions and alternative drivetrains. Hybrid vehicles	UP.02.D.02.O.20.10						1		1													4	
11.	Numerical analysis in problems of fluid-structure interaction	UP.02.F.02.O.20.11						1		1													5	
12.	English language (facultative)	UP.02.C.02.O.20.12								2													3	
<b>TOTAL HOURS</b>			<b>14</b>				<b>14</b>																<b>30</b>	<b>30</b>

### 2<sup>nd</sup> YEAR

No.	Course name	CODE	Hours per week								Type of Evaluation								ECTS credits					
			Sem. III				Sem. IV				E		C		V		P		S III	S IV				
			C	S	L	P	C	S	L	P	S III	S IV	S III	S IV	S III	S IV	S III	S IV						
13.	Vehicle mechatronics	UP.02.D.03.O.20.13	2	1																			8	
14.	Vehicle thermal comfort	UP.02.D.03.O.20.14	2		2																		7	
15.	Environmental problems of automotive engineering	UP.02.D.03.O.20.15	2		1																		8	
16.	Vehicle reliability	UP.02.D.03.O.20.16	2		2																		7	
17.	Research semester:																							
	Option 1.																							
	A	CFD simulation of internal combustion engine (AVL Fire)	UP.02.D.04.A.20.17																					10
		Simulation of vehicles (AVL Cruise, Simulink)	UP.02.D.04.A.20.18																					10
	B	Structural analysis (Matlab, LS Dyna)	UP.02.D.04.A.20.19																					10
		Simulation of vehicle thermal management (Theseus)	UP.02.D.04.A.20.20																					10
		Option 2. Internship in a research center or lab	UP.02.D.04.A.20.21																					20
	Master's thesis preparation	UP.02.S.04.A.20.22																					10	
<b>TOTAL HOURS</b>			<b>14</b>				<b>14</b>																<b>30</b>	<b>30</b>
18.	Presentation of final project (facultative)	UP.02.S.04.A.20.23																					10	

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