Course Elements Library AMVE

First year
Semester 1

No	Subject	Symbol	Full-time study				Point
		subject	Type of course				ECTS
			L	E	Lab	Pro	
1	Complex number analysis	501	2	1	0	0	4
2	Probability and statistics	502	2	1	0	0	4
3	Advanced applied mechanics	503	2	2	0	0	5
4	Integrated production systems	504	2	0	1	0	4
5	Design theory	505	2	0	0	0	2
6	Physics	506	3	0	0	0	4
7	Automatic control	507	1	1	0	0	3
8	Local models of layered structures	508	2	0	1	0	4
9	P.E	509	0	2	0	0	0
Sum			16	7	2	0	30
			25				

First year
Semester 2

No	Subject	Symbol	Full-time study				Point
		subject	Type of course				ECTS
			L	E	Lab	Proj	
1	Computer modelling in engineering practice.	510	1	0	1	0	3
2	Technological systems safety	511	2	0	0	0	2
3	Selected topics of thermodynamics and fluid dynamics	512	2	1	0	0	3
4	Introduction to robotics	513	1	0	1	0	3
5	Knowledge based systems in engineering design	514	2	0	0	0	2
6	Advanced structural materials	515	1	0	1	0	3
7	Modelling and testing of machines	516	2	0	2	0	6
8	Vehicles dynamics	517	2	0	1	0	3
9	Numerical methods in mechanics	518	1	0	1	0	3
10	Computer aided manufacturing	519	2	0	0	0	2
Sum			16	1	7	0	30
			24				

Second year
Semester 3

No	Subject	Symbol	Full-time study				Point
		subject	Type of course				ECTS
			L	E	Lab	Proj	
1	Elective course HES	601	2	0	0	0	2
2	Elective course HES	602	2	0	0	0	2
3	Modeling of machine elements by using original prog. in FEM	603	1	0	1	0	3
4	Modelling of automobiles suspensions	604	1	0	1	0	3
5	Genetic algorithms and neural networks	605	1	0	1	0	3
6	Machine diagnostics	606	1	0	1	0	3
7	Elective course	607	2	0	0	0	2
8	Elective course	608	2	0	0	0	2
9	Elective course	609	2	0	0	0	2
10	Elective course	610	2	0	0	0	2
11	Interim project	611	0	0	0	5	6
			16	0	4	5	30
			25				

	Elective course sem. 3	ECTS
1	Active safety systems in an automobile	2
2	Ecological powertrains	2
3	Simulation of vehicles and machines	2
4	Combustion and catalysis	2
5	Degradation of supporting structures	2
6	Introduction to modeling and control of construction machinery	4
7	Distributed mechatronics systems	2
8	Advanced methods of digital signal processing	2

	Elective course HES sem. 3	ECTS
1	Technology Transfer	2
2	Polish / German - Advanced level	2

Second year
Semester 4

No	Subject	Symbol subject	Full-time study				Point
			Type of course				ECTS
			L	E	Lab	P	
1	Elective course HES	611	2	0	0	0	2
	Elective course HES	603	2	0	0	0	2
2	Elective course	612	2	0	0	0	2
3	Elective course	613	2	0	0	0	2
4	Diploma seminar	614	0	2	0	0	2
5	Master of science thesis	615	0	0	0	18	20
6	Practice diploma	616	4 weeks				4
			8	2	0	18	30
			28				

	Elective course sem. 4	ECTS
1	Hybrid drives	2
2	Energy cogeneration in vehicles	2
3	Electric and Hydraulic Lifts	2
4	Multidomain environmental hazards	2
5	Smart Materials and Structures	2

	Elective course HES sem. 4	ECTS
1	Business management	2
2	History of technology	2