

No.	Code	Course unit	Year I										Type of examination			No. hours per course unit				ECTS		Remarks		
			Sem 1 (14 wks)					Sem 2 (14 wks)					E	C	V	Tot	C	Apl.	In.	S	1		2	
			C	S	L	P	P	C	S	L	P	P												
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	20	21	22		
1		Mathematical analysis	2	2											N			100	28	28	44	4		DOB-DF
2		Linear algebra, analytical and differential geometry	2	2											N			100	28	28	44	4		DOB-DF
3		Physics	2		2										N			100	28	28	44	4		DOB-DF
4		Computer programming and programming languages	2		2										N			100	28	28	44	4		DOB-DF
5		Chemistry	2		1										N			100	28	14	58	4		DOB-DF
6		Descriptive geometry	1		2										N			100	14	28	58	4		DOB-DF
7		Material science and engineering	1		1										N			75	14	14	47	3		DOB-DD
		<b>Optional 1</b>		1											N			50		14	36	2		
8		Modern languages (English)																						DOP-DC
9		Modern languages (French)																						DOP-DC
10		Modern languages (German)																						DOP-DC
11		Physical education and sport		1												A/R		25		14	11	1		DOB-DC
12		Matematici speciale						1	1						N			75	14	14	47		3	DOB-DF
13		Mechanics						2	1						N			75	28	14	33		3	DOB-DD
14		Electrical drives						2		2						N		100	28	28	44		4	DOB-DD
15		Computer programming and programming languages						2		2					N			100	28	28	44		4	DOB-DF
16		Technical drawing and infographics						2		2						N		75	28	28	19		3	DOB-DF
17		Material science and engineering						1		1					N			75	14	14	47		3	DOB-DD
18		Basics of robotics								1						N		25		14	11		1	DOB-DD
19		Communication						1	1							N		50	14	14	22		2	DOB-DC
		<b>Optional 2</b>								2						N		50		28	22		2	
20		Modern languages (English)																						DOP-DC
21		Modern languages (French)																						DOP-DC
22		Modern languages (German)																						DOP-DC
23		Physical education and sport								2							A/R	50		28	22		2	DOB-DC
24		Practical work (for the field of mechatronics and robotics)								2 wks x		30					A/R	75		60	15		3	DOB-DD
																1500	322	466	712	30	30			

**Facultative**

25		Mathematical analysis and algebra	1	1												N			14	14				DFA-DF
26		WEB technologies							1		2					N			14	28				DFA-DS

TOTAL			12	6	8	0	0	11	7	8	0	25										
			26					26														
No. ex/ No. Col+No. Verif.			5/3+1					5/4+2														

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No.	Code	Course unit	Year II										Type of examination			No. hours per course unit				ECTS		Remarks	
			Sem 3 (14 wks)					Sem 4 (14 wks)					E	C	V	Tot	C	Apl.	In. S	1	2		
			C	S	L	P	P	C	S	L	P	P											
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	20	21	22	
27		Strength of materials	2		1								N			125	28	14	83	5		DOB-DD	
28		Mechanics	2	1									N			100	28	14	58	4		DOB-DD	
29		Basics of automation systems				1							N			100		14	86	4		DOB-DD	
30		Tolerances and dimensional control	2		2								N			100	28	28	44	4		DOB-DD	
31		Computer aided graphics	2		2	1								N		100	28	42	30	4		DOB-DF	
32		Electronics and automation	2		2									N		100	28	28	44	4		DOB-DD	
33		Driving systems	2	2										N		75	28	28	19	3		DOB-DD	
		<b>Optional 3</b>	1	1										N		50	14	14	22	2			
34		Industrial management																				DOP-DC	
35		Creativity and inventions																				DOP-DC	
		Modern languages (English)																				DOP-DC	
		Modern languages (French)																				DOP-DC	
36		Modern languages (German)																				DOP-DC	
37		Mechanisms and machine elements						3		2	2		N			125	42	56	27		5	DOB-DD	
38		Fluid mechanics						2		1			N			75	28	14	33		3	DOB-DD	
39		Applied electronics for robotics						1		1						50	14	14	22		2	DOB-DS	
40		Electrical drives of industrial robots						1		1			N			75	14	14	47		3	DOB-DS	
41		Control systems in robotics						2	1					N		75	28	14	33		3	DOB-DD	
42		Computer aided design						1	2					N		75	14	28	33		3	DOB-DD	
43		Applied modern languages (English)						1	1				N			50	14	14	22		2	DOB-DC	
		<b>Optional 5</b>						2		2			N			100	28	28	44		4	DOB-DS	
44		Hydraulic drives of industrial robots																					
45		Pneumatic drives																					
46		Practical work (for the field of mechatronics and robotics)										4 wks × 30			A/R	125		120	5		5	DOB-DD	
																1500	364	484	652	30	30		

### Facultative

47		Innovation management	1		2									N			14	28				DFA-DS
48		Entrepreneurship						1			2			N			14	28				DFA-DC

TOTAL			13	4	7	2	0	13	4	7	2	30										
			26					26														
No. ex/ No. Col+No. Verif.			4/4					5/2+1														

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No.	Code	Course unit	Year III										Type of examinati			No. hours per course unit				ECTS		Remarks	
			Sem 5 (14 wks)					Sem 6 (14 wks)					E	C	V	Tot	C	Apl.	In.	S	1		2
			C	S	L	P	P	C	S	L	P	P											
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	20	21	22	
49		Mechanisms and machine elements	3												N	75	42		33	3		DOB-DD	
50		Mechanisms and machine elements				2									N	50		28	22	2		DOB-DD	
51		Machine-tools and manufacturing equipment	2		2	1									N	125	28	42	55	5		DOB-DS	
52		Manufacturing technologies	1		1										N	100	14	14	72	4		DOB-DS	
53		Acquisition systems, interfaces and virtual instrumentation	2		2										N	125	28	28	69	5		DOB-DD	
54		Computer aided design	2		2										N	100	28	28	44	4		DOB-DD	
55		Object oriented programming (Java)	1			1									N	75	14	14	47	3		DOB-DS	
56		Sensors and sensing systems	2		2										N	100	28	28	44	4		DOB-DD	
57		Robot mechanics						3	2						N	125	42	28	55		5	DOB-DS	
58		Manufacturing technologies						2		1					N	75	28	14	33		3	DOB-DS	
59		Flexible manufacturing systems						2		2					N	100	28	28	44		4	DOB-DS	
60		Mechanical construction of industrial robots						2		1					N	75	28	14	33		3	DOB-DS	
61		Manufacturing robotization						2		1					N	75	28	14	33		3	DOB-DS	
62		Engineering of production systems						1		1					N	50	14	14	22		2	DOB-DS	
63		Industrial informatics						1			1				N	50	14	14	22		2	DOB-DS	
		<b>Optional 5</b>						2		2					N	100	28	28	44		4		
64		Microcontrollers and microprocessors																				DOP-DD	
65		Artificial intelligence																				DOP-DD	
66		Practical work (for the specialisation of robotics)													A/R	100		90	10		4	DOB-DS	
																1500	392	426	682	30	30		

### Facultative

66		Virtual reality	1		2										N	14	28					DFA-DS
67		Object oriented programming (Python)						1		2					N	14	28					DFA-DS

TOTAL		13	0	9	4	0	15	2	8	1	0
		26					26				
No. ex/ No. Col+No. Verif.		4/3					4/5				

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No.	Code	Course unit	Year IV										Type of examinati			No. hours per course unit				ECTS		Remarks	
			Sem 7 (14 wks)					Sem 8 (14 wks)					E	C	V	Tot	C	Apl.	In.	S	1		2
			C	S	L	P	P	C	S	L	P	P											
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	20	21	22	
68		Virtual manufacturing	2		2								N			100	28	28	44	4		DOB-DS	
69		Mechanical construction of industrial robots	2			1							N			100	28	14	58	4		DOB-DS	
70		Control and programming of CNC machine-tools	2		1								N			100	28	14	58	4		DOB-DS	
71		Manufacturing robotization	2										N			50	28		22	2		DOB-DS	
72		Manufacturing robotization				2								N		50		28	22	2		DOB-DS	
73		Service robots	1		1								N			50	14	14	22	2		DOB-DS	
74		Flexible manufacturing systems	2		1								N			100	28	14	58	4		DOB-DS	
		<b>Optional 6</b>	2		2								N			100	28	28	44	4			
75		Interfaces for human-robot interaction																				DOP-DS	
76		Development of intelligent industrial robotic systems																				DOP-DS	
		<b>Optional 7</b>	1		2								N			100	14	28	58	4			
80		Applications with microcontrollers in industrial robotics																				DOP-DS	
81		Programming languages for robots																				DOP-DS	
82		Quality management and engineering					2	2					N			125	28	28	69		5	DOB-DS	
83		Mechatronic systems					2	1					N			125	28	14	83		5	DOB-DD	
		Service robots					2		1				N			50	28	14	8		2	DOB-DS	
84		Robots with parallel structures and applications					2	1					N			125	28	14	83		5	DOB-DS	
		<b>Optional 8</b>					2	2					N			125	28	14	83		5		
85		CAD-CAM-CAE systems																				DOP-DS	
86		Pneumatic actuation and control of robot manipulators																				DOP-DS	
87		Elaboration of the final degree project										4		N		100		56	44		4	DOB-DS	
88		Practical work for the final degree project										5		N		100		70	30		4	DOB-DS	
																1500	336	378	786	30	30		

89		<b>Examination of the final degree project</b>											N									10	DOB-DS
<b>Facultative</b>																							
90		Rapid prototyping	1		2								N			14	28						DFA-DS
91		Medical robotics	1		2								N			14	28						DFA-DS

<b>TOTAL</b>			14	0	9	3	0	10	0	6	1	9										
			26					26														
No. ex/ No. Col+No. Verif.			4/4					4/1 +2														

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