

Second cycle of academic university studies at the FACULTY OF ELECTRICAL ENGINEERING

Title of study program: AUTOMATION AND PROCESSES

One-year study (60 ECTS)

Code	I Semester- first year			
	Mandatory subjects			
	SUBJECT	Credits	Lessons	Total
2ET200112	SCADA systems	6	2+2+1	156
2ET200212	Physics of electro optic systems	6	2+2+1	156
2ET200312	Special electrical machines in automation	6	2+2+1	156
	Elective subject unit 1	4	2+1+1	120
	Elective subject unit 2	4	2+1+1	120
	Elective university subject	4	2+1+1	120
	Total:	30	30	828

Code	II Semester- first year			
	Mandatory subjects			
	SUBJECT	Credits	Lessons	Total
2ET200412	Random processes	6	2+2+1	156
	Preparation of Master Thesis	24		
	Total:	30	30	156

Code	Elective subject 1			
2ET200512	Industrial Robotics	4	2+1+1	120
2ET200612	PLC implementation and programming	4	2+1+1	120
	Elective subject 2			
2ET200712	Process design for sustainable technologies	4	2+1+1	120
2ET200812	Energy efficiency of processes	4	2+1+1	120

Two-year studies (120 ECTS)

Code	I Semester- first year			
	Mandatory subjects			
	SUBJECT	Credits	Lessons	Total
2ET200912	Physics of electro optical systems	8	3+2+2	216
2ET201012	Systems for acquisition, monitoring and measurements	8	3+2+2	216
2ET201112	Operational Research	6	2+2+1	120
	Elective subject unit 1	4	2+1+1	120
	Elective subject unit 2	4	2+1+1	120
	Total:	30		

Code	II Semester- first year			
	Mandatory subjects			
	SUBJECT	Credits	Lessons	Total
2ET201212	Special electrical machines in automation	8	3+2+2	216
2ET201312	Random processes	8	3+2+2	216
2ET201412	Contemporary regulation of electromotor drives	6	2+2+1	156
	Elective subject unit 3	4	2+1+1	120
	Elective subject unit 4	4	2+1+1	120
	Total:	30		

Code	III Semester- second year			
	Mandatory subjects			
	SUBJECT	Credits	Lessons	Total
2ET201512	SCADA systems	8	3+2+2	216
2ET201612	Industrial Robotics	8	3+2+2	216
	Elective subject unit 1	8	3+2+2	216
	Elective university subject unit	6	2+2+1	156
	Total:	30		

Code	IV semester			
	Preparation of Master Thesis	30		
	Total:	30		

Code	Elective subject 1:			
2ET201812	FPGA и FLA systems for automation	6	2+2+1	156
2ET201912	PLC implementation and programming	6	2+2+1	156
	Elective subject 2:	4	2+1+1	120
2ET200712	Process design for sustainable technologies	4	2+1+1	120
2ET200812	Energy efficiency of processes	4	2+1+1	120
	Elective subject 3:			
2ET202012	(Modeling and risk management) Theory and models of decision making	4	2+1+1	120
2ET202112	Applied physics in biomedical research	4	2+1+1	120
	Elective subject 4:			
2ET202212	DSP systems for automation	4	2+1+1	120
2ET202312	Software packages in systems for automation	4	2+1+1	120
	Elective subject 5:			
2ET201712	Power convertors in control systems	8	3+2+2	216
2ET201812	Optimization methods and their application in electrical engineering	8	3+2+2	216

TABLE OF UNIVERSITY ELECTIVE SUBJECTS
Study program 2012/2013

No	Subject	Number of subjects AAA	Code	Semester	m/ s	ECTS
1	Entrepreneurship	001	UGD200112		s	4
2	Human resources management	002	UGD200212		s	4
3	Promotion	003	UGD200312		s	6
4	Organizational behavior	004	UGD200412		s	6
5	Applied Electrical Engineering	005	UGD200512		s	6
6	Agro-ecology	006	UGD200612		s	6
7	Organic manufacturing	007	UGD200712		s	6
8	Unconventional processes	008	UGD200812		s	4
9	Plastic processing technologies	009	UGD200912		s	4
10	Copyrights and other related rights	010	UGD201012		s	6
11	European Union-institutions and law	011	UGD201112		s	4
12	International criminal law	012	UGD201212		s	6
13	Political parties	013	UGD201312		s	4
14	Experiments design and analyze	014	UGD201412		s	4
15	Design history and theory	015	UGD201512		s	4
16	Mechanical characteristics of textile materials	016	UGD201612		s	4
17	Macedonian WEB technologies for business support	017	UGD201712		s	4
18	Business Data communications	018	UGD201812		s	4
19	E- learning	019	UGD201912		s	4
20	Finite elements method	020	UGD202012		s	6
21	Finite elements method	021	UGD202112		s	4
22	Applied Data Analysis	022	UGD202212		s	6
23	Applied Data Analysis	023	UGD202312		s	4
24	Business foreign language (English)*	024	UGD202412		s	4

25	Business foreign language (German)*	025	UGD202512		s	4
26	Macedonian language in public communication	026	UGD202612		s	4
27	Music of human race	027	UGD202712		s	4
28	Educational Systems	028	UGD202812		s	4
29	Developmental psychology	029	UGD202912		s	4
30	GIS	030	UGD203012		s	4
31	Industrial Engineering	031	UGD203112		n	6
32	Methodology in scientific research	032	UGD203212		s	4
33	Natural resources	033	UGD203312		s	6
34	Business systems in tourism and hospitality	034	UGD203412		s	6
35	International tourist zones	035	UGD203512		s	4
36	Tourism planning	036	UGD203612		s	6
37	Regional planning and sustainable development	037	UGD203712		s	4
38	Applied electrical engineering	038	UGD203812		s	4

NOTE: * Chose only one language from Business foreign language 1