



RĪGAS TEHNISKĀ UNIVERSITĀTE

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Study programme "Computerised Control of Electrical Technologies"

Main attributes

Title	Computerised Control of Electrical Technologies
Identification code	EMO0
Education classification code	45522
Level and type	Academic Master (Second Cycle) Studies
Higher education study field	Power and Electrical Engineering, Electrical Technologies
Head of the study field	Oskars Krievs
Deputy head of the study field	Pāvels Gavrilovs
Department responsible	Faculty of Electrical and Environmental Engineering
Head of the study programme	Leonīds Ribickis
Professional classification code	
The type of study programme	Full time
Language	Latvian, English
Accreditation	29.05.2013 - 30.06.2023; Accreditation certificate No 2020/40
Volume (credit points)	81.0
Duration of studies (years)	Full time studies - 2,0
Degree or/and qualification to be obtained	Master Degree of Engineering Science in Electrical Science
Qualification level to be obtained	The 7th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Bachelor Degree of Engineering Science in Electrical Science

Description

Abstract	Within the framework of academic Master studies the students master field-specific theoretical and specialised subjects connected with development and design of different electrical technologies and the methods of their automation. On completion of the studies the students develop and defend a Master Thesis. On successful defence of the Thesis the students are awarded a Master degree in electrical engineering.
Aim	The aim of the academic Master studies is to provide Master level education in electrical engineering, to advance students' knowledge in economics and humanitarian subjects, to develop their skills in solving practical tasks in research and design of electrical technologies and to realize pedagogical work.
Tasks	The main objectives of academic Master studies are the following: -1 . to provide advanced knowledge on basic technologies in the field of electric power consumption; -2 . to develop understanding of electronic devices and systems elaboration principles; -3 . to develop practical skills in design and operation of the objects of computerised control; -4 . to enlarge knowledge in economics and social subjects; -5 . to develop scientific research skills.
Learning outcomes	The graduates are able: -to design and develop innovative systems of computer control for electro-technical equipment in any branch of economy; -to apply theoretical knowledge for solving of scientific problems; -to design and develop electronic devices, semiconductor power converters and electric drive systems; -to apply computers and software for designing activities, to compile software programmes for control of technology objects; - to apply skills and knowledge in the field of scientific investigation and pedagogical work; -to apply foreign language in the applied scientific field; -to summarize, analyze and prove the results of scientific work; -to complete reports on the research results and write scientific publications. The graduates obtain Master degree in Electrical Engineering.
Final/state examination procedure, assessment	Knowledge in a subject is evaluated by a lecturer responsible for this subject, by means of exam or test according to 10 grade scale. The least successful mark is 4 points. Five study subjects envisage the development of study projects (in curriculum they are marked with letter D). They are defended in the presence of tutors and the board and are evaluated with a mark. Defending of a qualification work, that is, the Master Thesis, is public. It is evaluated by an Examination Commission that consists of at least 3 professors, appointed by the faculty Dean. The volume of the Master Thesis is approximately 50 printed pages with text, schemes and figures. The paper should comprise an investigation of some electrical equipment operation as well as proposals for technical realization of such equipment (schemes, their descriptions, technical documentation of equipment); the formatting of the paper should meet the requirement set in RTU regulations. Each Master paper is evaluated by a reviewer and assessed by the supervisor of the work.
Description of the future employment	The graduates of the study programme can work at any enterprise as highly qualified specialists in the field of electrical technologies and their automation, as well as at scientific research institutions as junior scientific personnel and as teachers at educational institutions.

Special enrollment requirements	Bachelor Degree in Electrical Engineering
Opportunity to continue studies	Doctoral study program, studies at professional Master program for obtaining an engineering degree.

Courses

No	Code	Name	Credit points
A		Compulsory Study Courses	43.0
1	EEP584	Theory of Electronic Converters of Electrical Energy	4.0
2	EEP585	Simulation of Electrical Processes	5.0
3	EEP574	Commutated Converters	5.0
4	EEP572	The Control Systems of Power Electronics Equipment	5.0
5	EEP570	Elements of Automatics	9.0
6	EEP433	Automated Electrical Drive	3.0
7	EEP524	Design of Power Electronics Systems	3.0
8	EEP504	Microprocessors - based Automation Systems	3.0
9	EEP582	Control Technique with Microprocessor Controllers	3.0
10	EEP583	Industrial Frequency Converters and Inverters	2.0
11	IDA700	Basics of Labour Protection	1.0
B		Compulsory Elective Study Courses	14.0
B1		Field-Specific Study Courses	10.0
1	EEP408	Automated Electrotechnological Processes	2.0
2	EEP430	Industrial Programmable Control Systems	2.0
3	EEP342	Application of Computers in Electrical Equipment Design	2.0
4	EEP319	Methods of Analysis and Calculation of Electronic Circuits	2.0
5	EEP458	Typical Electrical Drive	5.0
6	EEP581	Electro-Magnetic Compatibility in Industrial Electronic Equipment	2.0
7	EEP453	Industrial Electronic Equipment	4.0
8	EEP345	Unconventional Systems of Energy Conversion and Accumulation	3.0
9	EES162	High Voltage Engineering	3.0
B2		Humanities and Social Sciences Study Courses	2.0
1	HSP483	Industrial Relations	2.0
2	HSP488	Business Sociology	2.0
3	HSP430	Social Psychology	2.0
4	HSP446	Pedagogy	2.0
B3		Economics and Management Study Courses	2.0
1	IUE217	Business Economics	2.0
2	IUE308	Entrepreneurship Planning	2.0
3	IRO313	Organization of Production	2.0
C		Free Elective Study Courses	4.0
E		Final Examination	20.0
1	EEI002	Master Thesis	20.0
2	EEL002	Master Thesis	20.0
3	EEP002	Master Thesis	20.0