



## RĪGAS TEHNISKĀ UNIVERSITĀTE

Reģ.Nr.9000068977, Kipsalas iela 6A, Rīga, LV-1048, Latvija  
Tālr.:67089999; Fakss:67089710, e-pasts:rtu@rtu.lv, www.rtu.lvwww.rtu.lv

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### Study programme "Computerised Control of Electrical Technologies"

#### Main attributes

Title	Computerised Control of Electrical Technologies
Identification code	EDO0
Education classification code	51522
Level and type	Doctoral (Third 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 Computer Science Information Tehnology And Energy
Head of the study programme	Leonīds Ribickis
Professional classification code	
The type of study programme	Full time
Language	Latvian, English
Accreditation	14.09.2022 - 15.09.2028; Accreditation certificate No 2022/21-A
Volume (credit points)	192.0
Duration of studies (years)	Full time studies - 4,0
Degree or/and qualification to be obtained	Doctor of Science (Ph.D.) in Engineering and Technology / –
Qualification level to be obtained	The 8th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Master degree of engineering or comparable education

#### Description

Abstract	The students of the study programme master compulsory, specialization and free choice study courses individually under the supervision of a responsible professor during the first two years of the study programme. The aspects of computer control of electrical technologies within the different branches of the state economy are under consideration within these study courses. During the second two years of the study programme, the students develop research work in the field of a selected scientific problem. The research is completed with the presentation of doctor thesis and its open defence at Promotional Board P-14 obtaining PhD diploma.
Aim	The aim of the study programme is to train specialists of high qualification who can solve modern scientific tasks in the area of computerized control of electrical technologies, as well as to train the lecturers for higher schools and researchers for scientific institutions.
Tasks	The main objectives of the study programme are the following: – to provide doctoral students with the knowledge of the methods of investigation of complicated computer control of electrical technical objects; – to provide doctoral students with the knowledge of technical innovations; – to provide doctoral students with the skills of teaching work; – to enforce the knowledge of foreign languages to the level necessary for international scientific discourse; – to arrange investigations of international importance and reports on the results of the work.
Learning outcomes	PhD studies result in the obtaining of knowledge for further scientific and pedagogical work, which in terms of competences and skills can be characterized as follows: - able to apply theoretical knowledge for the solution of scientific problems; - able to organize and implement pedagogical activities; - able to design and develop innovative systems of computer control for electrotechnical equipment used in different branches of economy; - able to design and develop innovative electronic devices, semiconductor devices of a power converter, electric propulsion systems and robotic equipment; - able to conduct internationally significant research, implement dissemination of research results through international publications and conferences; - able to apply knowledge of foreign language at the level of international scientific discourse.
Final/state examination procedure, assessment	The final examination is a presentation of thesis (dissertation). The thesis (promotional work) contains an approved original research and provides novel results in the selected scientific field. The conformity of work is evaluated by the State scientific qualification committee, the experts of Latvian Science Council and the Promotional Council of corresponding scientific branch. It is evaluated taking into account the following criteria: completeness and novelty of investigations, conformity of content and volume of thesis, usage of advanced methods for analysis and data treatment, the presence of publications in peer reviewed international scientific issues, participation in international scientific conferences (seminars) and dissemination of results of investigation. PhD is obtained after positive voting of members of the board.
Description of the future employment	The graduates can work as researchers at scientific organizations, instructors / lecturers at higher education organizations, specialists in engineering of high qualification.
Special enrollment requirements	-



**Courses**

No	Code	Name	Credit points
<b>A</b>		<b>Compulsory Study Courses</b>	<b>15.0</b>
1	EEI601	Intelligent Electronic Equipment	4.0
2	EEP602	Dynamics and Energetics of Electrical Drives	5.0
3	EEL601	Optimization of Parameters of Power Electronics Converters	6.0
<b>B</b>		<b>Compulsory Elective Study Courses</b>	<b>21.0</b>
0	EEM323	Electrical Machines Special Modes of Operation	5.0
1	EEI611	Automation of Electrical Technologies	6.0
		<i>Electrical Technologies and Automation</i>	<i>10.0</i>
1	EEP606	Electromechanical Energy Converters and Electrical Technologies	10.0
2	EEP609	Theory of Automation	10.0
3	EEI602	Expert Systems of Industrial Electronics	15.0
		<i>Power Electronics</i>	<i>10.0</i>
1	EEP610	Systems of Pulse Control	10.0
<b>C</b>		<b>Free Elective Study Courses</b>	<b>6.0</b>
<b>E</b>		<b>Final Examination</b>	<b>150.0</b>
1	EEI009	Research Work	150.0