

Study programme "Smart Power Systems"

Main attributes

Title	Smart Power Systems
Identification code	EDR0
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	Antans Sauļus Sauhats
Professional classification code	
The type of study programme	Full time, Extramural
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; Extramural - 5,0
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	In their doctoral studies, students master compulsory, field-specific and free elective study courses in the field of electrical power engineering and electrical engineering. The second part of the studies contains scientific research within the scope of an individual doctoral thesis.
Aim	The aim of the study programme is to train highly qualified specialists in the area of power and electrical engineering, who can solve research and innovation tasks in the field.
Tasks	The tasks of the study programme: - to provide in-depth theoretical knowledge in the fundamental study courses of the study field, to ensure the acquisition of skills through scientific and research work, as well as scientific discussion skills; - to develop PhD students' knowledge of technical innovation methods; - to provide PhD students with the knowledge and skills for their pedagogical activities; - to develop foreign language skills to the level required for international scientific communication; - to promote internationally relevant research, presentation of its results and participation of PhD students in international and local conferences.
Learning outcomes	The graduates of the study programme are: - able to independently evaluate and select research methods appropriate to the fields of electricity and electrical engineering and have gained a new understanding of the existing knowledge and its application in practice by conducting a substantial amount of original research, some of which is at the level of internationally cited publications; - able to communicate on topics related to their field of scientific activity with other scientists and the general public; - able to independently improve their scientific qualifications, implement scientific projects and manage research or development tasks; - able to complete significant research or innovation tasks by independently performing critical analysis, synthesis, and evaluation; - proficient in research methodology and modern research methods.
Final/state examination procedure, assessment	The thesis developed by the PhD student is publicly defended before the Doctoral Council of the field of Electrical Engineering and Electronics. The members of the Council, making themselves acquainted with the assessment of the reviewers and the process of the public defence, conduct a secret ballot regarding the conferral of a scientific doctoral degree (PhD) in the field of Electrical Engineering, Electronics, Information and Communication Technologies, subfield: Electrical Power Engineering.
Description of the future employment	The graduates of the study programme can work at universities, scientific research institutes or authorities, as well as in enterprises in the field of electrical power engineering and electrical engineering.
Special enrollment requirements	
Opportunity to continue studies	

Courses

No	Code	Name	Credit points
A		Compulsory Study Courses	15.0
1	EES752	Mathematical Methods in Power Engineering	9.0
2	EES746	Automation and Protection of the Electrical Power System. Scientific Seminar	6.0
B		Compulsory Elective Study Courses	21.0
B1		Field-Specific Study Courses	21.0
1	EES663	Automation and Optimization of Electric Power Systems	9.0
2	EES705	Control and Operation of Smart Power System	6.0
3	EES665	Synthesis of Electrical Power System's Automation Arrangements	6.0
4	EES753	Dynamics and Stability of Power Systems	9.0
5	EES666	Synthesis of Power System Automation Algorithms	6.0
6	EES689	Power Systems Protective and Automation Algorithms	9.0
7	EES681	Smart Power System Development Planning and Optimal Management	6.0
8	EES749	Power Management and Optimization Methods. Scientific Seminar	6.0
9	EES750	Observability and Security of Control of Electric Power Systems	6.0
10	EES751	Reliability and Sustainability of Power Systems	6.0
11	EEM759	Special Operation Modes of Electrical Machines	9.0
12	EEM689	Mathematical Simulation of Magnetic Fields for Electrical Machines	6.0
13	EEM753	Numerical Methods and their Use in Electrical Engineering	6.0
C		Free Elective Study Courses	6.0
E		Final Examination	150.0
1	EES009	Research Work	150.0