RĪGAS TEHNISKĀ UNIVERSITĀTE

Reģ.Nr.90000068977, Ķīpsalas iela 6A, Rīga, LV-1048, Latvija
Tālr.:67089999; Fakss:67089710, e-pasts:rtu@rtu.lv, www.rtu.lvwww.rtu.lv

Study programme "Computer Systems"

Main attributes

Title	Computer Systems
Identification code	DDD0
Education classification code	51483
Level and type	Doctoral (Third Cycle) Studies
Higher education study field	Information Technology, Computer Engineering, Electronics, Telecommunications, Computer Control and Computer Science
Head of the study field	Agris Ņikitenko
Deputy head of the study field	Jurģis Poriņš
Department responsible	Faculty of Computer Science and Information Technology
Head of the study programme	Egons Lavendelis
Professional classification code	
The type of study programme	Full time
Language	Latvian, English
Accreditation	31.05.2013 - 30.06.2023; Accreditation certificate No 2020/80
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	masters degree of engineering science

Description

Abstract	Doctoral study programme "Computer Systems" (192 credit points) is 4 years long and teaches doctors of engineering (information technology field, systems analysis, modelling and design sub-sector). Students acquire profound knowledge of corresponding theoretical courses: Conceptual Aspects of Object-Oriented Programming, Advanced Methods of Computer Systems Design, and Intelligent Computer Systems, as well as courses of specialization which are defined by supervisors of doctoral thesis. Theoretical courses are the basis for research in the chosen topic. Doctoral study programme includes mandatory courses (15 credit points), restricted electives (specialization) – 15 credit points, languages (6 credit points) and free electives (6 credit points), and scientific workshops where doctoral students work up their research skills by reporting about their obtained results, reviewing papers of their colleagues, and attending the defence procedure of doctoral thesis thus preparing themselves for defence of their own thesis. For working out doctoral thesis the study programme has 150 credit points. In their research doctoral students concentrate on complex problem solving in computer systems with focus on development of information systems, large scale software systems and intelligent systems using advanced information technologies.
Aim	Study programme aim is to prepare professionals for independent scientific and pedagogical work at the university in the field of informatics and computer technology area of the systems analysis, modeling and design, as well as to provide knowledge and skills necessary to manage and implement technically complex projects.
Tasks	Study programme tasks are the following: To improve pedagogical skills necessary for successful work as academic staff after graduation of the doctoral studies. To improve knowledge about research methods and their use. To improve skills to define and independently solve scientific problems. To introduce to current scientific theories and findings, as well as fundamental research in the information technology field. To improve scientific literature analysis skills and scientific communication skills.
Learning outcomes	Graduates of this study programme will: Be able to build researcher's and/or lecturer's career at universities and research institutions. Be able to plan, organize and manage large-scale scientific projects, or research/development tasks in companies, also in an international context. Be able to work independently, as well as to collaborate on the development of common interdisciplinary scientific projects. Be able to independently propose the idea for the research. Be able to make independent and critical analysis, synthesis and evaluation. Be able to carry out research at the level of internationally cited publications and present findings at scientific conferences as well as to non-scientific community. Be able and promote the scientific ethics principles in their research activities.

Final/state examination procedure, assessment	To receive the academic degree of doctor of engineering, students must accomplish the syllabus and work out and defend the doctor's thesis. The workload of the doctor's thesis is 102 credit points. The doctor's thesis is worked out using the research and education laboratories of the Institute of Applied Computer Systems, as well as workplaces for doctoral students equipped with high quality computer equipment (developed using ESF funding). The evaluation of the doctor's thesis is determined by the rules defined by the State Scientific Qualification Commission. The doctor's thesis must be publicly defended at the Promotion Council P-07 in the area of informatics and computer technologies that has been founded at the Faculty of Computer Science and Computer Engineering.
Description of the future employment	Graduates can start working in information technology companies (or in IT departaments of other companies) or in research institutions implementing technically complex information technology projects, or doing pedagogical work.
Special enrollment requirements	
Opportunity to continue studies	

Courses

No	Code	Name	Credit points
A		**Compulsory Study Courses**	**15.0**
1	DIP632	Formal and Natural Language Processing	5.0
2	DPI641	Concepts of Object-Oriented Software	5.0
3	DSP639	Advanced Methods of Computer System Design	5.0
B		**Compulsory Elective Study Courses**	**21.0**
0	DSP643	Scientific Seminar	6.0
B1		**Field-Specific Study Courses**	**15.0**
		Systems Analysis, Modelling and Design	*15.0*
1	DIP603	Methods of Development of Applied Software Systems	10.0
2	DSP634	Structural Modelling	10.0
3	DIP602	Modern Technologies in Software Development	10.0
4	DPI637	Topological Modelling in Past and Future	10.0
5	DSP641	Advances in Information Systems Development	10.0
6	DPI643	Conceptual Aspects of Model-Driven Software Development	10.0
7	DIP601	Computer-Aided Learning Technologies	5.0
8	DSP638	Distributed Intelligent Systems	5.0
9	DIP604	Dialogue Intelligent Systems	5.0
10	DPI638	Methodology of Visual Programming	5.0
11	DSP640	Advances in Knowledge Management	5.0
12	DPI642	Evolutionary Trends of Object-Oriented Technology	5.0
C		**Free Elective Study Courses**	**6.0**
E		**Final Examination**	**150.0**
1	DSP009	Research Work	150.0
2	DIP009	Research Work	150.0
3	DPI009	Research Work	150.0