RĪGAS TEHNISKĀ UNIVERSITĀTE

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Study programme "E-Learning Technologies"

Main attributes

Title	E-Learning Technologies
Identification code	DME0
Education classification code	45482
Level and type	Academic Master (Second 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	
Head of the study programme	Jānis Kapenieks
Professional classification code	
The type of study programme	Full time, Extramural
Language	Latvian, English
Accreditation	31.05.2013 - 31.12.2023; Accreditation certificate No 2020/80
Variant 1	
Volume (credit points)	40.0
Duration of studies (years)	Full time studies - 1,0; Extramural - 1,5
Degree or/and qualification to be obtained	Master of Science (MSc) in Engineering in E-learning technologies and management
Qualification level to be obtained	The 7th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Bachelor degree in Information Technology or Computer Science at least 160 credits or a Bachelor degree at least 160 credits and a qualification of an Informatics and Programming teacher, or comparable education
Variant 2	
Volume (credit points)	60.0
Duration of studies (years)	Full time studies - 1,5; Extramural - 2,0
Degree or/and qualification to be obtained	Master of Science (MSc) in Engineering in E-learning technologies and management
Qualification level to be obtained	The 7th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Bachelor degree in Natural Sciences or Social Sciences at least 160 credits, or comparable education

Description

Abstract	E-learning technologies are a new and fast-growing interdisciplinary research industry. It aims at developing e-ecosystems as a response to the challenges of the future industry and the public sector's digital needs. The main topics are the education, use and creation of e-learning-based study methods and technologies for education. Topics include advanced development of e-learning content, integration of reusable e-learning resources, implementation of e-learning processes, data mining, analysis, visualization, and interpretation of e-learning technologies. This master's degree programme graduates will be high-level experts in planning, creating, and analysing of e-content, which includes decision-making based on educational data. Graduates' competencies will be in high demand in state administration, local government, educational institutions, private enterprises, and lifelong learning projects. Graduates will be able to manage strategies for lifelong learning based on e-learning research and technologies. Graduates of this programme will be prepared for research in the field of e-learning technology. The programme contributes to the development of human capital for the information and communication technology (ICT) sectoral needs, by training highly qualified specialists and also improving existing specialist expertise in ICT. The target group of this programme will acquire knowledge, skills and abilities to become involved in the processes of knowledge society effectively and efficiently.
Aim	To increase human capital contributing to development in ICT fields, enhance knowledge of current ICT professionals in e-learning technologies to avoid the middle income gap in an intelligent way. To prepare highly skilled specialists who can meet modern requirements to work in a globalized network economy. To promote suitability of national specialists for the requirements of the nowaday job market and knowledge-intensive economy and who can work in universities, training centers, schools, State and local government institutions of Latvia, institutions of the European Union (after obtaining additional qualification), private sectors in Latvia. To develop a broad knowledge base in the field of e-learning technology and to promote the development of distance education. To integrate the research results of the e-learning with the use of open-source technologies and open learning resources created in RTU and in the world over the last 20 years.

Tasks	1. To develop student autonomy, initiative and ability to integrate into a constantly changing environment under the ircumstances of the digital age. 2. To provide students with the opportunity to: a. study use of data, e-learning resources and technologies in education and distance learning, emphasizing the principles of open source and content; b. develop skills in e-learning content development. 3. To provide learning content in the form of e-learning and distance education which includes evaluation of students' knowledge: a. on the fundamental process modelling for e-learning; b. on the evaluation of the results from specific target group; c. on the various ways to organize collaboration in e-learning and blended-learning environments; d. on the field of e-learning research, methods, tools, and technologies; e. on e-learning data analytics, including data mining and visualization; f. on the curriculum content creation and the implementation of e-learning with contemporary technologies; g. on the trends and future development of e-learning technologies.
Learning outcomes	1. After studying this programme, graduates can explain and describe: a. the latest trends and development in e-learning technologies, research, and commercialization, including open-source solutions; b. the theories and models in science, e-learning, social media, collaborative learning, and knowledge flows. 2. After studying this programme, graduates are able to: a. analyze, evaluate and use e-learning materials according to the recent developments of educational technologies. b. plan, prepare and coordinate the e-learning course content, including multimedia study materials. c. to choose appropriate e-learning management solution for appropriate use case, including e-learning data analysis methods and their optimal usage strategies in situations related to e-learning technology. d. to use modelling methods for the planning and development of e-learning modules, courses, programmes and digital age businesses. e. to use sophisticated models of e-learning technologies based on cloud computing, deep learning, methods for large-scale data usage and research. f. argue and discuss the aspects of e-learning technology with both professionals and other field experts. g. independently plan and execute the development and implementation of e-learning technologies. 3. After studying this programme, graduates are able to: a. choose, plan, and use virtual laboratories in the learning process. b. choose, plan, and use virtual complementary reality technologies in the learning process. c. conduct e-learning usability studies and interpret the results.
Final/state examination procedure, assessment	At the end of the study year students prepare master thesis. Master thesis is independent project completed by the student during the last semester in consultation with the supervisor. If necessary student can arrange consultations with outside specialists in the relevant research field. Final master thesis is written adopting two specific research methods. The first is a systematic literature review of theories, and also publicly available implemented e-learning projects. The second is an e-learning project that answers the research questions raised and demonstrates master's level knowledge, abilities and skills in the framework of the given programme. The range of implementation of the final project for e-learning permits the following stages of research implementation: (1) concept, (2) design, (3) development and (4) implementation. To successfully complete the master's programme students must pass the final state examination which is evaluated according to the 10-point system. Part of the final assessment is the oral defence of the master thesis. Thesis consists of a theoretical and practical parts which together makes up 20 credit points. The quality of the subject matter, scope, management, literature review, and oral defence are determined by the official "Regulations on the development and defence of the master thesis". The list of possible topics for the Master's thesis is confirmed in council meeting by the RTU faculty of E-learning technology and humanities.
Description of the future employment	The expediency of the master's academic study programme "E-learning technologies" is evidenced by the growing demand for interdisciplinary specialists with competences in information and communication technologies and engineering in the Latvian and international job-markets. The program promotes development of human capital for the advancements in ICT sector which is one of the priorities for Latvia's development. Graduates' competencies will be in high demand in state administration, municipalities, educational institutions, private enterprises, lifelong learning projects, and different projects that require development of e-learning design and content. Within the framework of this programme, students will have the opportunity to further develop more in depth competencies and skills stated above. The master's academic programme "E-learning technologies" synthesises and integrates skills and competences in accordance with the requirements of European Union and job-markets of the digital age.
Special enrollment requirements	Bachelor's degree in Engineering or Bachelor's degree in Computer Science with a minimum of 160 credit points, as well as a degree from a foreign higher education institution comparable to them.
Opportunity to continue studies	Upon graduating students have the opportunity to further their education in doctoral studies in Latvian or foreign higher education institutions.

Courses

No	Code	Name	C.p. [1]	C.p. [2]
A		Compulsory Study Courses	20.0	36.0
1	RTC401	Instructional Technology and Media for E-learning	5.0	5.0
2	RTC402	E-learning Technology and Methodology	5.0	5.0
3	RTC403	Instructional Data Analytics and Education Intelligence	5.0	5.0
4	RTC404	Advanced Digital Technologies in Education	5.0	5.0
5	RTC702	Introduction to Knowledge Society Technology		4.0
6	RTC409	Introduction to Programming Languages		4.0
7	RTC407	Cybersecurity and E-study Technologies		4.0
8	RTC411	Data In Digital Age		4.0
D		Practical Placement		4.0
1	RTC412	Internship		4.0
E		Final Examination	20.0	20.0
1	RTC405	Master's Thesis	20.0	20.0
K.p.[*] kredītpunkti studiju programmas variantā				