RTU Course "Quality, Risk and Security Technologies"

33000 Datorzinātnes, informācijas tehnoloģijas un enerģētikas fakultāte

General data

Code	DE0742
Course title	Quality, Risk and Security Technologies
Course status in the programme	Compulsory/Courses of Limited Choice
Responsible instructor	Ērika Nazaruka
Academic staff	Renāte Strazdiņa
Volume of the course: parts and credits points	1 part6.0 ECTS credits
Language of instruction	LV, EN
Abstract	A modern enterprise's operations are closely related to the application of information and communications technology. For the most part, enterprises cannot remain competitive and viable without resorting to ICT. However, selecting the most appropriate technologies for a specific company requires an understanding of ICT. Some of the most crucial prerequisites for successful deployment of ICT in an enterprise is the quality of technologies chosen, understanding of the risks associated with such technologies and security of the selected technologies. The main topic of the course is an overview of the existing quality, risk and security technologies from the following viewpoints: 1) Process; 2) Activities; 3) Standards; 4) Methods applied; and 5) Best practice examples. To ensure that the aim of the course is successfully attained, theoretical studies are complemented with practical deployment and analysis of the technologies discussed. During the practical part of the course, narratives of quality, risk and security management processes are created, existing methods and standards are applied to real-life enterprises' situation examples and existing technologies are applied in practice.
Goals and objectives of the course in terms of competences and skills	The goal of the course is to expand the student's knowledge in IT quality, risk and security management, as well as to develop skills in the organization and implementation of quality, risk and security processes. Objectives of the study course: 1) To develop the student's ability to discuss the basic principles and limitations of IT quality, risk and security management; 2) To expand knowledge in the IT quality, risk and security processes and the standards used in them; 3) To improve skills to independently organize the implementation of quality, risk and safety processes, taking into account the goals of the organization and business structure; 4) To improve the skills to perform IT risk analysis and identify potential vulnerabilities in the company, offering scenarios to improve quality and / or risks and / or security processes for real-life examples of business situations.
Structure and tasks of independent studies	Independent studies include the acquisition of theoretical material in preparation for examinations, laboratory and practical assignments, as well as the development of individual assignment.
Recommended literature	Obligātā. / Obligatory: 1. Handbook of Research on Information Security and Assurance. [elektroniskais resurss]. Hershey ; New York : Information science reference, 2009., xxvii, 557 lpp. : il. 2. Dale, Barrie G.,. Managing quality : an essential guide and resource gateway /edited by Barrie G. Dale, David Bamford and Ton van der Wiele., xxii, 330 lpp. : ilustrācijas ; 25 cm 3. Hoyle, David. Quality systems handbook / David Hoyle. Oxford [etc.] : Butterworth-Heinemann, 1994., xii, 380 lpp. ; 24 cm. 4. Lientz, Bennet P.. Risk management for IT projects : how to deal with over 150 issues and risks /Bennet P. Lientz, Lee Larssen. Amsterdam [etc.] : Elsevier/Butterworth-Heinemann, c2006., xviii, 331 lpp. : il. Papildu. / Additional: 1. Hoyle, David. ISO 9000 quality systems handbook : increasing the quality of an organization's outputs /David Hoyle., xviii, 874 lpp. : ilustrācijas ; 25 cm
Course prerequisites	Information system life cycle, knowledge about ICT infrastructure, knowledge about project management.

Course contents

Content	Full- and part-time intramural studies		Part time extramural studies	
	Contact Hours	Indep. work	Contact Hours	Indep. work
Introduction to quality, risk and security technologies	4	0	0	0
IT quality management process, activities and standards	12	20	0	0
IT risk management process, activities and standards	4	8	0	0
IT risk assessment process and methods	4	8	0	0
IT risk mitigation process and methods	4	4	0	0
IT security management process, activities and standards	12	20	0	0
IT quality management support technologies	8	8	0	0
IT risk management support technologies	8	8	0	0
IT security management support technologies	8	16	0	0
Consultations	2	0	0	0
Exam	2	0	0	0
Total:	68	92	0	0

Learning outcomes and assessment

Learning outcomes	Learning outcomes assessment methods and assessment criteria
Can discuss and support his / her views on the basic principles, and limitations thereof, of IT quality, risk and security management; The student can explain IT quality, risk and security management.	Positively passed tests and exam. Criteria: can provide complete answers on the development of secure computer systems, communication technologies, software and methods of their use; can perform situation analysis with proposals for improving the competitiveness of an IT company.
Can support their view on necessity of implementation of the IT quality, risk, and security management process and the most effective way depending on organization goals and structure.	Positively passed independent individual assignment. Criteria: can analyze the situation and develop a description of the IT quality and / or risk and / or security management process.
Can deploy appropriate tools to designing a quality and / or risk and / or security process in an enterprise (in a certain environment).	Positively performed laboratory and practical assignements, active participation in classes. Criteria: can analyze the situation; can establish the quality and / or risk and / or safety process in the company according to the results of the analysis.
Can perform a risk assessment and design improvements.	Positively performed laboratory and practical assignements, active participation in classes. Criteria: can analyze the situation; can create quality and / or risk and / or security process improvement scenarios in the company according to the results of the analysis.

Course tests

Tests	% of final assessment
Active participation in classes	10
Tests	25
Laboratory and practical assignments in groups and individual assignments	25
Exam	40
Total:	100

Course planning

Part	Semester			CP	Academic hours			Tests		
	Autumn	Spring	Summer		Lectures	Practical	Lab.	Test	Exam	Work
1.	*			6.0	32.0	16.0	16.0		*	