RTU Course "Enterprise Architecture and Requirements Engineering "

12307 Sistēmu teorijas un projektēšanas katedra

General data

Code	DSP700
Course title	Enterprise Architecture and Requirements Engineering
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Post-graduate Studies
Course type	Academic
Field of study	Computer Science
Responsible instructor	Mārīte Kirikova
Volume of the course: parts and credits points	1 part, 4.0 Credit Points, 6.0 ECTS credits
Language of instruction	LV, EN
Possibility of distance learning	Not planned
Abstract	The course presents basic approaches to requirements engineering. Students learn to identify and design enterprise/business architectures and specify requirements for organisational information systems viewing people and computer systems as nodes of information processing. They learn to analyse and design information flows in organisations and organisational networks and how to develop the information logistics model. IBM requirements identification and management tools are used in the course. Acquired knowledge is beneficial not only for requirements identification for information and communication technology solutions; it is applicable also for the design of products and services in general.
Goals and objectives of the course in terms of competences and skills	The goal of the course is to provide knowledge and skills of requirements identification, management and documentation, as well as to provide competence in decision-making with respect to the choice of appropriate requirements engineering methods and tools.
Structure and tasks of independent studies	In individual assignments knowledge about different enterprise architectures and requirements engineering methods is expanded.
Recommended literature	Alexander I, Beus_Dukic L. Discovering Requirements: How to Specify Products and Services, Wiley 2009. IBM Academic Initiative courseware, https://www.ibm.com/developerworks/university/courseware/
Course prerequisites	n/a

Course outline

Theme	Hours
Requirements engineering (RE) for the design of products services and information systems. Design methods.	8
Requirements acquisition, amalgamation and modelling. Ethical and cognitive-psychological aspects of RE	8
Information logistics, management and information systems	8
Enterprise, business and information systems architectures	12
RE approaches (value, architecture, process, object, business rules, and agent oriented methods)	16
Requirements management	4
RE for information systems and software design (for different life-cycle models)	8

Learning outcomes and assessment

Learning outcomes	Assessment methods
Students understand common and specific issues of requirements engineering and systems design.	Examination question that requires demonstration of common and specific issues in requirements engineering and systems design.
Students are able to acquire requirements without overstepping ethical principles of business, systems analysis, and information sytems design.	Analytical evaluation of video-recorded teamwork.
Students are able to use and evaluate requirements engineering methods and tools.	Assessment is based on the results of individual assignements and examination.
Students are able to use and evaluate requirements management methods and tools.	Representation of requirements changes in the requirements management tool.
Students are able to design models of information logistics and information systems that conform to requirements.	At the examination it is required to identify requirements for the given case and to design appropriate models of information logistics and information system.
Students recognize, can evaluate and use different enterprise/business architecture frameworks and their models. Can design enterprise architecture.	At the examination it is necessary to choose the most appropriate architecture framework for a given case. In individual assignments models are developed involving several enterprise arch-es.

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	4.0	6.0	2.0	0.0	2.0		*	