RTU Course "Requirements Engineering"

12307 Sistēmu teorijas un projektēšanas katedra

General data

Code	DSP555
Course title	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	Kirikova Mārīte
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 explains the role of requirements engineering in the organizational development and information systems design. During the course students learn several requirements engineering methods, such as soft systems methodology, process oriented methods, and architecture, service, decision analysis, business rules, and agent oriented methods. The main emphasis in the course is on training the ability to understand in which situations which requirements engineering methods and tools are to be used and how they are to be combined to achieve desired level of requirements acquisition detail and manageability.
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 the respect to the choice of appropriate requirements engineering methods and tools.
Structure and tasks of independent studies	During the individual assignments knowledge about different requirements engineering methods and tools 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	Suggested: Systems analysis and software engineering.

Course outline

Theme	Hours
The scope of requirements engineering	8
Goal and problem oriented requirements engineering	8
Enterprise, business and information systems architecture oriented requirements engineering	8
Requirements engineering and management tools	8
RE approaches (value, process, business rules, decision analysis, and agent oriented methods)	16
Aspect and service oriented requirements engineering	8
Requirements management	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 identify and solve requirements engineering problems.	Examination questions prompting requirements problem solutions.
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 integrate requirements engineering methods.	At the examination can describe requirements engineering methods integration.
Students recognize, can evaluate and use different enterprise/business architecture frameworks and their models.	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	1.0	1.0		*	