



RTU Course "Systems Analysis"

12307 Sistēmu teorijas un projektēšanas katedra

General data

Code	DSP738
Course title	Systems Analysis
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	Jānis Grundspenķis
Volume of the course: parts and credits points	1 part, 2.0 Credit Points, 3.0 ECTS credits
Language of instruction	EN
Possibility of distance learning	Not planned
Abstract	The course concerns systems analysis tasks in the context of logistics information systems. It focuses on logistics information system modelling, decision analysis and organizational requirements for new solutions and changes. Functional decomposition and methods of structural analysis are included in the course. Students learn system classifications and characteristics and general systems laws. Basics of process theory, modelling and characteristics of complex system functioning as well as organization of logistics information systems analysis process, its methods, and software-oriented notations are discussed.
Goals and objectives of the course in terms of competences and skills	The goal of the course is to acquire basic principles of logistics information systems analysis, system classifications, characteristics, basics of process theory, modelling and characteristics of complex system functioning, organization of logistics information system analysis process, its methods, and software-oriented notations.
Structure and tasks of independent studies	Practical works individually are planned for practical realization of methods included in the course.
Recommended literature	1. Kendall K.E., Kendall J.E. Systems Analysis and Design. Prentice Hall, Inc., 2008. 2. Fenton N.E., Hill G. Systems Construction and Analysis: A Mathematical and Logical Framework. Mc Graw-Hill, 1993, 465 p. 3. Bose N.K. Multidimensional Systems Theory and Applications. Springer, The Netherlands, 2009, 292 p.
Course prerequisites	System thinking and basic notions of systems theory

Course outline

Theme	Hours
Tasks of logistics information systems analysis	2
Modelling, decision analysis and organizational requirements for new solutions and changes	6
Functional decomposition and structural analysis	4
System's classifications and characteristics	2
General system's laws	2
Basics of process theory, modelling and general characteristics of system functioning	6
Organization of logistics information systems analysis process and its methods	6
Software-oriented notations of systems analysis process	4

Learning outcomes and assessment

Learning outcomes	Assessment methods
Student is able to identify tasks of logistics information systems analysis	During practical the student must identify tasks for real world logistics information systems analysis
Student has modelling and decision analysis skills and understands organizational requirements in case of new solutions and changes concerning logistics information systems	During individual practical work the student must model and make decisions in case if new solutions and changes are needed
Student knows how to decompose the system and analyse its structure	During practical the student must carry out the decomposition and structural analysis of logistics information system
Student knows basics of process theory, modelling and general characteristics of system functioning	During practical the student must model some processes in logistics information system, and during the examination to define general characteristics of system functioning
Student understands organization of logistics information systems analysis process and is able to apply corresponding methods	During examination the student must explain organization of logistics information systems analysis process and during practical must apply appropriate methods to real world systems

Student knows software-oriented notations of system analysis process	During practical the student must apply notations for real logistics information system
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Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	2.0	3.0	1.5	0.5	0.0		*	