



RTU Course "Logistics Information Systems"

12111 Modelēšanas un imitācijas katedra

General data

Code	DMI708
Course title	Logistics Information Systems
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	Andrejs Romānovs
Volume of the course: parts and credits points	1 part, 6.0 Credit Points, 9.0 ECTS credits
Language of instruction	LV, EN, RU
Possibility of distance learning	Not planned
Abstract	The course "Logistics Information Systems" is an essential component of logistics and IT specialist theoretical training that enables students to effectively work in the area of business logistics. This course focuses on methods, technologies and systems that ensure a system approach to IT application in a logistics enterprise; it thoroughly examines IT solutions aimed to support logistics functions including logistics object identification and monitoring as well as logistics information types and their functionality, warehouse, inventory and transportation management information systems, enterprise resource, production planning and control, supply chain planning and event management information systems and their operation principles.
Goals and objectives of the course in terms of competences and skills	To provide profound knowledge of the latest achievements in the information technology market which are designed for solving topical logistics problems. To acquire practical skills of using information and communication technology in logistics. To promote students' abilities and competences to define requirements to the technical and linguistic tools of LIS and to offer alternative solutions.
Structure and tasks of independent studies	Students' independent work includes these activities: preparation of the theoretical background for laboratory works, summarising and analysing the results as well as analytical work with recommended literature and other information sources related to the individual research on LIS
Recommended literature	<ul style="list-style-type: none"> • Ginters, E., Merkurjevs, J., Romānovs, A., Soško, O. Loģistikas informācijas sistēmas. RTU, Rīga, 2008, 100lpp. • Glover, B., Bhatt, H. RFID Essentials. Oreilly & Associates Inc., 2006, 288p. • Hegarty, C. Understanding GPS. Artech House, 2005, 703p. • Logistics Information Systems. Edited by Egils Ginters. Riga, 2002. Part 1, 380p. Part 2, 302p. • Logistics Information Systems. Dictionary . English. German. French. Spanish. //Ed.by E.Ginters, Vidzeme University College, 2006, 1115p. • Sadek, Adel W., Chowdhury, Mashrur A.. Fundamentals of Intelligent Transportation Systems Planning. Artech House, 2003, 210p. • Tilanus, B. Information Systems in Logistics and Transportation. Pergamon, 1997, 339p.
Course prerequisites	Basic knowledge in logistics and Information technologies

Course outline

Theme	Hours
Introduction to LIS, systems, objects and user classification, organizational and functional models, components	4
Object identification methods and technologies in logistics	10
Object tracking methods and systems	10
LIS technological components and information transmission environments, data processing technologies, soft and hardware	6
Mechanisms of LIS reliability management	2
Logistics IT solutions for warehouse, inventory and transportation management, enterprise resource and supply chain plan	12
Major LIS and subsystems, it's functionality, architecture and functioning principles	12
Intermediate checks (tests, individual research, discussions etc.)	8
Laboratory studies in the field of logistics information technologies and systems	32

Learning outcomes and assessment

Learning outcomes	Assessment methods
Are able to define, interpret and use professional terminology in logistics information systems area, to analyze and choose data identification, processing, tracking and tracing technologies in LSCM	Successfully passed test.
Are able to elaborate and substantiate the IT project solution to support the chosen logistics function, to evaluate and compare major LIS and subsystems, it's functionality, architecture and functioning principles	In the course of presenting the research work, the ability to suggest alternative solutions to the selected problem as well for performing a comparative analysis of those alternatives has been demonstrated

Are able to evaluate limitations to the suggested LIS solution and provide possible ways to overcome them	While doing laboratory works, the student identifies at least two limitations to the use of LIS and offers possible ways to overcome them
Are able to motivate and discuss the choice of IT solutions for a logistics enterprise as well as to summarise the ideas of their colleagues when working in groups and present the results of group work	While conducting discussions with industrial partners, based on the theoretical knowledge the ability to constructively discuss the problem under consideration using professional terminology, is demonstrated
Are able to recommend a LIS solution to the defined logistics task	When passing the examination, the ability to understand the essence of the task stated is shown as well as the ability to provide a laconic and well-reasoned proper solution

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	6.0	9.0	4.0	0.0	2.0		*	