RTU Course "Basics of Logistics and Supply Chain Management"

12111 Modelēšanas un imitācijas katedra

General data

Code	DMI705
Course title	Basics of Logistics and Supply Chain Management
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	Arnis Lektauers
Volume of the course: parts and credits points	1 part, 4.0 Credit Points, 6.0 ECTS credits
Language of instruction	LV, EN, RU
Possibility of distance learning	Not planned
Abstract	In this study course the basic concepts and principles of logistics and supply chain management are examined based on an overview of the logistics sector. By characterizing the logistics concepts the main activities and technologies of this branch are examined in connection with the planning, implementation, control and analysis of material flow management processes. A special attention is paid to the development and application of information technology solutions in logistics and supply chain management including such modern technologies as web based information systems, electronic data interchange, bar codes / RFID, GIS and GPS. There are also examined case studies in practical application of logistics and supply chain control in purchasing, manufacturing, distribution, transportation, inventory and warehouse management processes.
Goals and objectives of the course in terms of competences and skills	To provide basic knowledge in the area of logistics and supply chain management (SCM), as well to acquire basic skills of using logistics management methods and solutions. To form students' competences in the acquirement of basic terms and technical means in logistics and SCM. To promote scientific and practical interest in actual development trends of logistics.
Structure and tasks of independent studies	Student's independent work includes these activities: fulfilment of practical laboratory tasks, summarising and analysing the results, as well as analytical work with scientific literature and other information sources related to logistics and SCM.
Recommended literature	•Donald J. Bowersox, David J. Closs, M. Bixby Cooper, Supply Chain Logistics Management, 3rd Revised Edition, McGraw Hill Higher Education, 2009 •David Simchi-Levi, Philip Kaminsky, Edith Simchi-Levi, Designing and Managing the Supply Chain, 3rd Edition, McGraw Hill, 2008
Course prerequisites	Basic knowledge in Information technology

Course outline

Theme	Hours
Terminology and concepts	2
Logistics and SCM goals	4
The framework for logistics and SCM services and the global market	8
Typology of providers and users in logistics and SCM	4
Operational areas: warehouse operations, inventory management, order picking, transport operations, internal material fl	4
Use cases: SC design, SC risks, SC optimization	6
Intermediate checks (control work, individual research, discussions etc.)	4
Labs	32

Learning outcomes and assessment

Learning outcomes	Assessment methods
Are able to define, interpret and use professional terminology in the area of logistics and SCM, as well in the related area of information technology.	Successfully passed test.
Are able to solve thematic tasks and to compare different solution scenarios and their achieved results.	While doing laboratory works, the abilities to solve the given work assignments individually or in groups by performing a comparative analysis of different assignment scenarios and their results are demonstrated.
Are able to describe the topicality of the given theme, to classify existing solutions and to analyse existing problems and development trends.	While doing individual research work, the ability to justify the choice of theme, as well as the ability to explain the problems and trends of given thematic area is demonstrated.
Are able to explain the essence, possibilities and importance of material, information and finance flow management in different areas of logistics.	When passing the examination, the ability to understand the essence of the thematic task, as well the ability to provide a laconic and well-reasoned clarification of assigned themes is shown.

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		*	