Information Technologies

Code: 44761
ECTS Credits: 6

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Degree	Type	Year
4318306 Logistics and Supply Chain Management	OB	1

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Teachers

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Teaching groups languages

You can view this information at the end of this document.

Prerequisites

NOne

Objectives and Contextualisation

This course "Information technologies in logistics" is an important component part of logistics specialist theoretical training that enables students to effectively work in the area of business logistics, based on use of modern information technology.

After the course students are expected to be able:

- to consider, interpret and use professional terminology in logistics and related information technologies area
- to discuss about the information technologies in logistics, to analyze problems and trends of the industry to solve thematic tasks in the field of logistics IT and to compare results of different solution scenarios and its performance results
- to describe the relevance of the chosen logistics information technology topics, to classify existing solutions, analyze the existing problems and trends

Learning Outcomes

1. CA09 (Competence) Research and plan how to apply complex technologies and information systems to logistics.
2. CA10 (Competence) Manage information gathering by retrieving and analysing data obtained from different sources, whilst taking into account the gender perspective and its potential bias.
3. KA12 (Knowledge) Recognise and select basic information technologies in relation to LSCM.
4. KA13 (Knowledge) Identify the sector's challenges and trends from an IT perspective.
5. SA14 (Skill) Apply information technology principles, concepts and techniques in order to solve related tasks in the field of logistics-related IT, and compare the results of different solution scenarios and their performance results.
6. SA15 (Skill) Use general concepts of information management systems to classify existing solutions and analyse existing problems and trends.
7. SA16 (Skill) Recognise, interpret and use professional terminology in the field of logistics and related information technologies.
8. SA17 (Skill) Evaluate the role information technologies play in LSCM.

Content

In this course, the basics of logistics information technologies are examined; a special attention is paid to the basic functioning principles of logistics information systems and to the information technologies used in logistics, such as tracking and tracing technologies, object identification technologies, communication technologies. There are also examined examples of IT applications in the purchasing, manufacturing, distribution, transportation, inventory and warehouse logistics.

List of topics:

- The role of information technologies in LSCM.
- Basics of enterprises' information systems: introduction to IT, information systems in the enterprise, electronic business and electronic commerce, IS hardware and software, managing data resources, etc. Major subsystems and internal operation of logistic information systems
- Basic information technologies in logistics:
  tracking & tracing (GPS,Galileo, etc.),
  identification (barcoding, RFID),
  communication (wireless, mobile, networking, EDI, etc.).

IT applications to support logistics functions (warehouse, inventory, transportation customer relationship management information systems, enterprise resource and supply chain planning, production planning and control information systems, supply chain event management information systems, etc.).

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practise sessions	30	1.2	
Theory lectures	30	1.2	
Type: Supervised			
Student presentation on the research topic	15	0.6	
Test on ITL	15	0.6	

Type: Autonomous		
Individual research essay	30	1.2
Mastering in the lectured course material	28	1.12

The course is organized by means of traditional lectures combined with seminars and practical work. The learning process will combine the following activities:

- Classroom sessions: include theory lectures, discussions and seminars for understanding the main using of information technologies
- Practise sessions: Laboratory works aimed to demonstrate the ability to perform assigned tasks, carrying out different tasks scenarios and comparative analysis of its results.
- Essay elaboration and presentation: In-class presentations on the essay topics related to IT in logistics with further discussions with the audience
- Autonomous work

Practical cases and essay about using information technologies to support logistics functions are used for promoting students hand on skills.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exam	40%	2	0.08	CA09, CA10, KA12, KA13, SA14, SA15, SA17
Individual research essay	35%	0	0	CA09, CA10, KA12, KA13, SA14, SA15, SA16
Laboratory work	25%	0	0	CA10, KA12, SA14, SA15, SA16, SA17

The final grade will be calculated from the assessment of different evaluation activities:

- Individual research essay: Report on the individual research about using information technologies to support logistics functions. Includes oral presentation of the research results on the essay topic
- Laboratory work: Laboratory studies in the field of logistics information technologies and systems
- Written exam. Students have to answer 2 theoretical question on the topics discussed during lectures

If the exam is failed, the student will have the opportunity to retake it. The dates for retaking an exam will be communicated to the student well in advance.

Bibliography

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12. Christian Wurst, Luca Graf. Disrupting Logistics: Startups, Technologies, and Investors Building Future Supply Chains, 1st ed. Springer, 2021, 298 pages. ISBN:978-3030610951

Software

Open-source software products are used to solve specific tasks (tracking & tracing, object identification)

Language list

Information on the teaching languages can be checked on the CONTENTS section of the guide.