

Sustainable logistics SYLLABUS

Study subject No: 4.3

Responsible Unit: JAMK University of Applied Sciences (JAMK)

Credits and distribution of academic hours*:

	Credits ECTS	Contact hours		Independent study hours	Total hours
		Lectures	Practical works or seminars		
JAMK	5	25	20	105	150
Total	5	25	20	105	150

* 1 ECTS = 30 hours (9 contact hours and 21 independent hours);

1 academic hour = 40 minutes;

Theoretical lectures not less than 50% of contact hours.

Course developer:

JAMK University of Applied Sciences (JAMK), **Ilkka Suur-Uski**

Notes: General study course for the master programme Bioeconomy.

Prior knowledge: None.

Annotation: The course provides knowledge about the essence of sustainable logistics and their concepts. Special focus is paid on logistics main functions, organization and instruments of those realization, types of logistics core operations and their ensuring functions in the context of sustainability. Students acquire basic knowledge in logistics management in enterprise and in constituent elements of logistics system, it's planning and control processes. The course also deals with number of important logistics elements – transportation, order processing, inventory management, warehouse facilities, packaging and material handling as well as management, control and planning. The course provides in-depth theoretical knowledge what to be used in practical activities, allows to understand and find solution for supply chain of logistics structure and elements, to make work plans for logistics systems, to select and analyse global and local changes in the bioeconomy industries.

The aim: By completing this course, you will know what logistics is and how it is linked to different kind of companies and organizations. You will also understand trends of logistics and understand its impact on the future of logistics. You will also understand circular economy as the part of the logistics. You will also know different parts of logistics.

Description of the organization and tasks of students' independent work:

During the course, students have individual and group assignments from different subjects, mainly reports, but also includes tasks where you have to visualize the process and present it in practice. One task is done with Microsoft Excel (or similar), so that student also know how to work with information logistics.

Theme 1: What is logistics

a) Virtual excursions, students watch different examples and write a report from it

b) Logistics breakdown, students return report of subject

Theme 2: Trends of Logistic

a) Chat room/Conversation of trends

b) Explanation of concepts, students return report of subject

Theme 3: Purchase and material management

a) Spend-analyse, students return excel worksheet

b) Material management, students return excel worksheet

Theme 4: Intra- and product logistics

a) Description of intra and production logistics (Group), students return report of subject

b) Explanation of concepts, students return report of subject

Theme 5: Transportation and Information Logistics

a) Students return Mind map of transportation

b) Explanation of concepts, students return report of subject

Learning outcomes (knowledge, skills and competences)

Learning outcomes	Assessment methods	Levels of achievement		
		Satisfactory	Average	High
KNOWLEDGE				
Students can explain what logistics means and what things are related to it.	Discussion in classes, individual assignment	Basic understanding of logistics. Faces challenges to utilize them in practice	Student has gained understanding of logistic process and can utilize it in practice.	Student has attained an excellent level of objectives and can apply them into practice in innovative manner.
Trends of Logistic	Discussion in classes, individual assignment	Basic understanding of logistic trends. Faces challenges to utilize them in practice	Student has gained understanding of logistic trends and can utilize it in practice.	Student has attained an excellent level of objectives and can apply them into practice in innovative manner.
Purchase and material management	Discussion in classes, individual Excel assignment	Basic understanding of supply chain. Faces challenges to utilize them in practice	Student has gained understanding of supply chain and can utilize it in practice.	Student has attained an excellent level of objectives and can apply them into practice in innovative manner.
Intra- and product logistics	Discussion in classes, group assignment	Basic understanding of logistic trends. Faces challenges to utilize them in practice	Student has gained understanding of logistic trends and can utilize it in practice.	Student has attained an excellent level of objectives and can apply them into practice in innovative manner.
Transportation and Information Logistics	Discussion in classes, individual assignment	Basic understanding of logistic trends. Faces challenges to utilize them in practice	Student has gained understanding of logistic trends and can utilize it in practice.	Student has attained an excellent level of objectives and can apply them into practice in innovative manner.
SKILLS				
Professional skills				
Management	Excel workbooks	Student can use excel when guided.	Student has gained	Student has attained an excellent level of

	return Mind map	Mind map is roughly made.	understanding of excel and making of mind map and can utilize them in practice.	objectives and can apply them into practice in innovative manner.
Communication and team working	Group assignment	Student can work on group.	Student can work on group and is capable to provide own ideas to the group.	Student can work on group. Student is capable to provide own ideas to the group and pay respect to the other group members.

Requirements for awarding credit points: 5 assessment overall.

Not done: 0 points.

Carelessly done and / or returned late and / or not followed the return instructions: half the points (5).

Done with care, returned on time and followed the return instructions: full score (10).

Knowledge assessment and prerequisites for taking a test or examination

** 10 percent are equal to one point on a 10-point marking scale (or 10 percent are equal to 0.5 point on a 5-point marking scale).*

Topic	Type of assessment	Percentage	Assessment deadline
What is logistics	Report	10	15 days
Trends of Logistic	Conversation/report	10	30 days
Purchase and material management	Excel	10	45 days
Intra- and product logistics	Report	10	60 days
Transportation and Information Logistics	Mind map/report	10	75 days
Exam		50	90 days
Total		100	-

The course contents

1. Lectures

1. What is logistics
 - a. where do logistics work and what kind of work
 - b. history of logistics
2. What is logistics
 - a. supply chain
 - b. Logistics breakdown
3. Trends of Logistic
 - a. Sustainable goals, Circular economy
 - b. Data, robotics
4. Trends of Logistic
 - a. Vehicles
 - b. Augmented reality, 3D
5. Purchase and material management
 - a. Purchase goals, importance
 - b. Tools to purchase
6. Purchase and material management
 - a. Material management, purpose
 - b. Material management, basics
7. Intra- and product logistics
 - a. Intralogistics, purpose
 - b. Intralogistics, basics
8. Intra- and product logistics
 - a. Warehouses
 - b. Warehouses
9. Intra- and product logistics
 - a. Product logistics
 - b. Product logistics
10. Transportation and Information Logistics
 - a. Transportation modes, overall
 - b. Transportation modes, trucks
11. Transportation and Information Logistics
 - a. Transportation modes, vessels
 - b. Transportation modes, aviation
12. Transportation and Information Logistics
 - a. Transportation modes, rails
 - b. Transportation modes, information systems

2. Practicals

1. Getting acquainted with the world of logistics by watching videos from different aspects.
2. Exploring local transportation modes volume, infra, capacity and performance.
3. Analysis logistics trends on global perspective
4. Student working groups discuss the information gathered and systematized during the course.
5. Students visit local factory to observe inbound, inhouse and outbound activities

References

Compulsory reading (books, scientific articles, online sources etc.):

1. The world of logistics 2021. <https://www.logistiikanmaailma.fi/en/the-world-of-logistics/>
2. Patrik, J. 2008. Logistics and supply chain management. McGraw-Hill Education. pages 24-77
https://books.google.fi/books?id=hsovEAAAQBAJ&lpg=PR1&ots=W9koSOWG_b&dq=Logistics%20ebook&lr&hl=fi&pg=PA24#v=onepage&q=Logistics%20ebook&f=false
3. Macharis, C. & Baptista, P. 2014. Sustainable logistics. Emerald.
4. Rodrique, J-P. 2020. The Geography of Transport Systems. ISBN. <https://transportgeography.org/>
5. Stuart, M. 2005. Excellence in Warehouse Management: How to Minimise Costs and Maximise Value.
6. Gwynne, R. 2011. Warehouse Management.
7. Chapman, Stephen N. 2017 Introduction to Materials Management. Eight edition, global edition. Harlow: Pearson Education Ltd. Chapter 9.
8. ABTS training. Green Logistics <https://www.abtslogistics.co.uk/green-logistics/>
9. UN. Sustainable Development The 17 goals <https://sdgs.un.org/goals>
10. W. P. Carey school of business: What is supply chain management. <https://youtu.be/Mi1QBxVjZAw>
11. W. P. Carey school of business: Buy it https://youtu.be/zYbtZ0x9_SA
12. W. P. Carey school of business: Make it <https://youtu.be/ncli94xodm8>
13. W. P. Carey school of business: Move it. <https://youtu.be/-ZpHiMTwOdM>

Further reading:

1. McKinnon, A., Browne, M. & Whiteing, A. (2012). Green logistics: Improving the environmental sustainability of logistics (2nd ed.). Kogan Page.
2. Business English: Vocabulary for Supply Chain Management <https://youtu.be/mxNRwYUgHtE>
3. Invata Intralogistics: Omni-Channel Distribution <https://youtu.be/YwfSkCkHUaY>
4. European Environment Information and Observation Network (Eionet) 2021 Final energy consumption in Europe by mode of transport <https://www.eea.europa.eu/data-and-maps/indicators/transport-final-energy-consumption-by-mode/assessment-10>

*The material is elaborated with financial support of the European Union Erasmus+ Programme.
The European Commission's support for the production of this document does not constitute an endorsement of the contents,
which reflect the views only of the authors, and the Commission cannot be held responsible for any use
which may be made of the information contained therein.*