



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Supply chain management

### Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3 / 5

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

Tutorials

15

Projects/seminars

Other (e.g. online)

### Number of credit points

4

### Lecturers

Responsible for the course/lecturer:

dr hab. inż. Katarzyna Grzybowska

email: katarzyna.grzybowska@put.poznan.pl

Faculty of Engineering Management

2 Jacek Rychlewski Str.

60-965 Poznań

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### Prerequisites

- student knows the basics of production organization and logistics;
- student is able to use basic measures of customer service level;
- the student shows willingness to cooperate in a group.

### Course objective

- mastering the student's knowledge, skills and social competences related to supply chain management;
- familiarizing students with the essence and principles of operation of supply chains;



- students learn basic solutions used in this area.

### Course-related learning outcomes

#### Knowledge

1. knows the basic concepts of supply chain management - [P6S\_WG\_05]
2. knows the basic management issues specific to supply chain management - [P6S\_WG\_08]
3. knows the basic relationships in supply chain management - [P6S\_WK\_04]
4. knows the basic phenomena and contemporary trends characteristic of supply chain management - [P6S\_WK\_05]
5. knows the best practices in supply chain management - [P6S\_WK\_06]

#### Skills

1. can search based on the literature and other sources and present information on a problem within the scope of supply chain management in an orderly manner - [P6S\_UW\_01]
2. can apply to solve the problem within the studied subject appropriate experimental and measuring techniques in the framework of supply chain management - [P6S\_UW\_03]
3. is able to assess and make a critical economic analysis of the selected problem, falling within the framework of supply chain management - [P6S\_UW\_06]
4. is able to design, using appropriate methods and techniques, an object, system or process that meets the requirements of supply chain management - [P6S\_UW\_07]
5. is able to present, using properly selected means, a problem within the scope of supply chain management - [P6S\_UK\_01]
6. can prepare in Polish and English at B2 level of the European Language Training Description System well documented development of logistics problems - [P6S\_UK\_02]
7. is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market, and based on them determine the needs to supplement knowledge - [P6S\_UU\_01]

#### Social competences

1. is aware of the critical assessment and perception of cause-effect relationships in achieving the set goals and ranking the significance of the tasks - [P6S\_KK\_01]
2. is aware of the recognition of the importance of knowledge in the field of supply chain management in solving cognitive and practical problems - [P6S\_KK\_02]
3. is aware of cooperation and work in a group on solving problems falling within the area of supply chain management - [P6S\_KR\_02]



### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

Lectures: acquired knowledge is verified on the basis of answers to questions about the material discussed during the lectures (two tests, differently scored).

Exercises: the acquired knowledge is verified on the basis of activity during the classes and assessment of the current progress of partial tasks carried out during the exercises (independent and group work, expressing own views and opinions).

Summative rating:

Lectures: acquired knowledge is verified on the basis of credit in writing (open questions, various points); credit is possible after obtaining a minimum of 60% of points.

Exercises: the acquired knowledge is verified on the basis of the results of the average of partial grades of forming assessment; passing exercises after getting at least 3.0

### Programme content

1. Definition of the supply chain (SC); Supply Chain Principles: Maintaining Supply in the Supply Chain; Supply Chain Management Strategies (Buffer Management / Buffer Inventory / Buffer Capacity, Time Reduction Strategy, Deferral Strategy, Joint Processes, Forecasting and Plan); CPFR strategy (nine steps); Stock analysis - across the network;
2. Conventional and integrated supply chains: Slim and agile supply chain; Inventory managed by the supplier (VMI); VMI - expectations of all parties; Information management (supplier - Customer); VMI - evaluation process;
3. Sustainable SC; Green SC; Sustainable SC, Green SC, Closed-loop SC, Food SC, Global SC, Humanitarian SC, Service SC, Reverse SC, Slim SC, Agile SC and SC integration, SC coordination, SC performance, SC resilience, SC risk management, SC collaboration, SC finance, SC design, SC agility, SC network, SC disruption, SC visibility, SC dynamic, SC sustainability, SC flexibility, SC strategy, SC innovation, SC relationships, SC security, SC complexity
4. JiT II: Study of the impact of forecasting models in the supply chain; Stock analysis - across the network;
5. Logistic operator in the supply chain (3rd party logistics, 4th party logistics);
6. Benchmarking in the Supply Chain: Reduce volatility in the supply chain; Techniques for problem solving in the process (problem definition, information gathering, identification of alternatives, assessment of variants and selection of the best solution, evaluation of activities); Problem-solving techniques (brainstorming, Mind Mapping, 5 x why; Cause-effect analysis; PDCA cycle); Identification of process improvement capabilities (value stream mapping);



7. SCORM model;
8. Coordination of activities in the supply chain;
9. Strong and weak supply chains: Slim and agile supply chains - Focus on customer needs;
10. Opportunities and threats related to the participation of the enterprise in the supply chain: Building partnerships and agreeing with the members of the supply chain; Bottleneck-type resources;
11. Supply Chain Management: Supply Chain Analysis using Value Stream Mapping (Diagramming Techniques); Product flow / workflow visualization; Identification of additive and non-additive actions; Identifying opportunities to improve processes (Kaizen); Flow synchronization; Reduction of volatility in the supply chain; Techniques for problem solving in the process (problem definition, information gathering, identification of alternatives, assessment of variants and selection of the best solution, evaluation of activities); Identification of process improvement capabilities (value stream mapping, Six Sigma)

### Teaching methods

#### Didactic methods

##### In lectures:

1. Information lecture
2. Conversational lecture
3. Oxford discussion

##### In the field of self-employment:

1. Working with a book

##### In the scope of exercises:

1. Exercise method - case method
2. Demonstration method
3. Guided text method
4. Simulation method
5. Discussion

### Bibliography

#### Basic

1. Ciesielski M., Zarządzanie łańcuchami dostaw, PWE, Warszawa, 2011



2. Ciesielski M., Długosz J., Strategie łańcuchów dostaw, PWE, Warszawa, 2010
3. Witkowski J., Zarządzanie łańcuchem dostaw. Koncepcje - procedury - doświadczenia, PWE, Warszawa, 2010
4. Awasthi A., Grzybowska K., Barriers of the supply chain integration process , Logistics Operations, Supply Chain Management and Sustainability, P. Golinska (ed.) Springer International Publishing, pp. 15-30, 2014, DOI: 10.1007/978-3-319-07287-6\_2
5. Grzybowska K., Modele referencyjne wybranych mechanizmów koordynacji działań w łańcuchu dostaw, Logistyka Nr 3, s. 5660-5664, 2015
6. Grzybowska K., Awasthi A., Sawhney R., (eds.), Sustainable Logistics and Production in Industry 4.0 – new opportunities and challenges, EcoProduction (Environmental Issues in Logistics and Manufacturing). Springer, Cham, 2020

Additional

1. Grzybowska K., Koordynacja - Systematyczna dyrektywa sprawnego działania systemów złożonych - wybrane spekty, Nauki o Zarządzaniu, 3 (28)/2016, s. 30-39, 2016
2. Grzybowska K., Koopetycja - współczesna forma współpracy w łańcuchu dostaw, Logistyka nr 6, s. 32-34, 2011

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	30	1,5
Student's own work (literature studies, preparation for laboratory tutorials, preparation for Oxford discussion, preparation for tests) <sup>1</sup>	70	2,5

<sup>1</sup> delete or add other activities as appropriate