GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Supply chain management, PG_00056147		
Field of study	Management and Production Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Zakład Technologii Maszyn i Automatyzacji Produkcji -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Aleksandra Wiśniewska	
	Teachers	dr inż. Sławomir Szymański dr inż. Aleksandra Wiśniewska	

Lesson types and methods of instruction							
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	30.0	0.0	60
	E-learning hours included: 0.0						
	Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/login/index.php						

Learning activity and number of study hours					
	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	60	0.0	0.0	60

Subject objectives	The student learns the goals and principles of the supply chain operation in terms of logistics. The student learns the methods and tools used in supply chain management. By expanding knowledge and performing simple exercises related to the analyzed areas of issues related to the scope of the supply chain, the student can independently design a supply chain management system, starting from the development of a supply system and an optimized technological line, through the evaluation and selection of suppliers, and ending with efficient distribution.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_K03] is aware of the social role of a graduate of a technical university, understands the importance of non-technical aspects and effects of engineering activities including their impact on the environment and responsibility for decisions, sees the need to formulate and provide the public with information and opinions on the achievements of technology, correctly identifies and resolves dilemmas associated with thejob of an engineer	The student understands the impact of his actions and decisions on the quality and safety of other people's work. The student is able to formulate messages (create reports, instructions and other documents) using standardization and visualization, so that the message created for the recipients is simple and understandable.	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK3] Assessment of ability to organize work
	[K6_U11] is able to identify and formulate simple engineering tasks related to the diagnostics of the technical condition of machines and devices using appropriate methods, techniques and tools	The student is able to define indicators and measures of equipment effectiveness and their impact on the stability and efficiency of the analyzed or designed supply chain.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[K6_W05] has systematized, theoretically founded knowledge of modelling the operation of production systems with various structures and forms of their organization and the analysis of production processes using computer simulation methods	The student knows and is able to identify the structures and forms of production. The student is able to analyze the goals of the designed facility and select the form of production organization and the parameters of the supply chain, ensuring the achievement of the assumed goals. The student uses computer assistance to solve problems of analysis and design of objects: their structure and mutual functional relations.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation
	[K6_W06] has knowledge of the life cycle of products and mechanical devices and systems, in the field of machine parts manufacturing techniques, as well as the possibilities and trends in the development of machines and production devices and process control	The student knows the types of products and the differences between managing a production company and managing a service company. Based on the acquired knowledge of production systems, the student knows the specificity of production processes as well as the principles, methods and tools of production control. Based on the acquired knowledge of production processes and technical and information resources, the student is able to select methods and tools for analysis, control and optimization ensuring high quality and efficiency of production control processes.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
	[K6_U06] when formulating and solving engineering tasks a student can see aspects of system management and organization of individual and as a team, taking into account the human factor, has necessary peparation for work in an industrial environment, and knows the rules and standards related to occupational health and safety	The student identifies the structural and functional links between the elements of the analyzed or designed supply chain. The student is able to analyze material and information flows in a given system and is able to identify places generating losses in the value chain (value stream mapping). The student is able to determine the level of risk and indicate activities that reduce the level of risk or maintain the risk at an acceptable level.	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment

Subject contents	**Lectures:** Logistics concept and development; supply chain management; logistics systems; analysis of logistics systems; logistic channels; supply logistics; production logistics; distribution logistics; logistics and marketing; logistic costs of enterprises; environmental protection logistics; logistics services (outsourcing). **Design exercises:** Logistic decision problems in: customer service, transport management, inventory management, storage, location of logistics facilities; transport and forwarding; transport logistics: road, rail, air, inland waterway, sea, combined, urban. The student learns the goals and principles of the supply chain operation in terms of logistics: minimizing the costs resulting from the flow of goods and information while maintaining a good level of customer service; short order fulfillment times as well as trouble-free and flexible deliveries; optimizing the level of inventories along with adjusting to the needs of the market. The student learns the methods and tools used in supply chain management: • LM (Lean management) - slimming management • QR (Quick Response) - quick response • AM (Agile Management) - flexible management • TQM (Total Quality Management) - comprehensive quality management • BPR (Business Process Reengineering) - redesign of the business process • TBM (Time Based Management) - time management • Six Sigma • ECR (Efficient Consumer Response) - effective service in customer supply chains • JiT (Just in time) - just on time • SCOR- (Supply Chain Operation Reference-Model) - the reference model of the supply chain • VMI (Vendor Management Inventory) - inventory management by the supplier By expanding knowledge and performing simple design exercises related to the analyzed areas of supply chain issues, the student can independently design a supply chain management system, starting from the development of a supply system and an optimized technological line, through the evaluation and selection of suppliers, and ending with efficient distribution.
Prerequisites and co-requisites	
Assessment methods and criteria	

Subject passing criteria	Passing threshold	Percentage of the final grade
Project	60.0%	50.0%
Written exam	60.0%	50.0%

Recommended reading	Basic literature	Ballou R.: Business Logistics Supply Chain Management. Prentice Hall, 2004. Pienaar W.: Business Logistics Management. Oxford University Press, 2009. Rutkowski K. (ed.): Best Practices in Logistics and Supply Chain Management the Case of. SGH, 2009. Witkowski Jarosław, Zarządzanie łańcuchem dostaw: Koncepcje, Procedury, Doświadczenia., PWE 2003 Ciesielski Marek, Instrumenty zarządzania łańcuchami dostaw., PWE 2009 Christopher Martin, Logistyka i zarządzanie łańcuchem dostaw., Polskie Centrum Doradztwa Logistycznego 1992 Bozarth Cecil B., Handfield Robert B., Wprowadzenie do zarządzania operacjami i łańcuchem dostaw., Helion 2007 Gołembska Elżbieta, Kompendium wiedzy o logistyce., PWN 1999 Sarjusz-Wolski Zdzisław, Sterowanie zapasami w przedsiębiorstwie., PWE 2000 Kenneth Lysons, Zakupy zaopatrzeniowe., PWE 2004 Yann Bouchery, Jan Fransoo, Charles J. Corbett, Tarkan Tan, Sustainable Supply Chains: A Research-Based Textbook on Operations and Strategy., Springer 2016
	Supplementary literature	Supply Chain Management Review , www.scmr.com Logistics Management, www.logisticsmgmt.com Supply Management, www.supplymanagement.com Bartłomiej Gawin, Systemy informatyczne w zarządzaniu procesami Workflow. PWN 2020 Wojewódzka-Król Krystyna , Rolbiecki Ryszard, Infrastruktura transportu. Europa, Polska teoria i praktyka, PWN 2018 Dani Samir, Strategic Supply Chain Management: Creating Competitive Advantage and Value Through Effective Leadership., Amazon Books 2019
	eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	• LM (Lean management) - slimming management • QR (Quick Response) - quick response • AM (Agile Management) - flexible management • TQM (Total Quality Management) - comprehensive quality management • BPR (Business Process Reengineering) - redesign of the business process • TBM (Time Based Management) - time management • Six Sigma • ECR (Efficient Consumer Response) - effective service in customer supply chains • JiT (Just in time) - just on time • SCOR- (Supply Chain Operation Reference-Model) - the reference model of the supply chain • VMI (Vendor Management Inventory) - inventory management by the supplier
Work placement	Not applicable

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