

# Production Logistics - opis przedmiotu

| Informacje ogólne   |                                       |
|---------------------|---------------------------------------|
| Nazwa przedmiotu    | Production Logistics                  |
| Kod przedmiotu      | 06.9-WM-MaPE-P-ProdLog-23             |
| Wydział             | <a href="#">Wydział Mechaniczny</a>   |
| Kierunek            | Management and Production Engineering |
| Profil              | ogólnoakademicki                      |
| Rodzaj studiów      | pierwszego stopnia z tyt. inżyniera   |
| Semestr rozpoczęcia | semestr zimowy 2023/2024              |

| Informacje o przedmiocie        |                                                                       |
|---------------------------------|-----------------------------------------------------------------------|
| Semestr                         | 5                                                                     |
| Liczba punktów ECTS do zdobycia | 5                                                                     |
| Typ przedmiotu                  | obowiązkowy                                                           |
| Język nauczania                 | angielski                                                             |
| Sylabus opracował               | <ul style="list-style-type: none"><li>dr Katarzyna Skrzypek</li></ul> |

| Formy zajęć |                                            |                                           |                                               |                                              |                     |
|-------------|--------------------------------------------|-------------------------------------------|-----------------------------------------------|----------------------------------------------|---------------------|
| Forma zajęć | Liczba godzin w semestrze<br>(stacjonarne) | Liczba godzin w tygodniu<br>(stacjonarne) | Liczba godzin w semestrze<br>(niestacjonarne) | Liczba godzin w tygodniu<br>(niestacjonarne) | Forma zaliczenia    |
| Wykład      | 15                                         | 1                                         | -                                             | -                                            | Egzamin             |
| Projekt     | 30                                         | 2                                         | -                                             | -                                            | Zaliczenie na ocenę |

## Cel przedmiotu

The main learning outcome will be to learn about the essence of logistics management in a company in the area of production and about production methods and models.

## Wymagania wstępne

Production and service management.

## Zakres tematyczny

Lecture:

W1: Definitions of logistics, enterprise logistics management process, identification of enterprise processes, logistics network - constraining conditions, objective function.

W2: Logistics system, enterprise logistics system, logistics system vs. logistics process, logistics chain, types of processes, types of production.

W3: Warehouse logistics - minimum ordering level, warehouse control (indicators), FIFO method, LIFO, average cost method.

W4-5: Production logistics: production function, production elasticity, Cobb-Douglas function, CES function, Zellner and Revankar function.

W6: Production optimisation, Gozinto graph.

W7: ERP information systems - MRP, MRP II, ERP, ERP II. Trends in the development of integrated management systems, examples of applications.

W8: New trends in logistics: e-business, B2B, B2C, virtual enterprise.

Project:

P1-2: Spatial planning of production

P3: Designing a logistics network - determining limiting conditions, objective functions

P4-6: Determination of optimum order levels, controlling in the warehouse - calculation of ratios, inventory valuation methods in the warehouse - FIFO method, LIFO, average cost method, MRP calculation, linear correlation of one variable as a forecasting method, least squares method

P7: Test

P8-10: The production function, the Cobb-Douglas function, other forms of the production function, the Gozinto graph

P11-13: The task of production optimisation

P14: Test

P15: New trends in logistics: e-business, B2B, B2C, virtual enterprise.it and services.

## Metody kształcenia

Conventional lecture. Project.

# Efekty uczenia się i metody weryfikacji osiągnięcia efektów uczenia się

| Opis efektu                                                                                                                                                                                                                                             | Symbole efektów         | Metody weryfikacji                         | Forma zajęć           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------|-----------------------|
| Has knowledge of development trends and new developments in the field of IT applications - development trends of ERP information systems, B2B, B2C systems.                                                                                             | • <a href="#">K_W36</a> | • egzamin - ustny, opisowy, testowy i inne | • Wykład              |
| Can appropriately prioritise to achieve a task defined by him/her and others - can solve production optimisation tasks.                                                                                                                                 | • <a href="#">K_K04</a> | • kolokwium                                | • Projekt             |
| Be able to select and apply appropriate optimisation methods to solve engineering tasks related to Production Management and Engineering - Gozinto graph, Cobb-Douglas function WOS type indices, CES function. Zellner function and Revankar function. | • <a href="#">K_U14</a> | • kolokwium                                | • Wykład<br>• Projekt |
| Knows the basic methods, techniques, tools used in solving simple engineering tasks - methods: Gozinto graph, Cobb-Douglas function WOS type indicators, CES function. Zellner and Revankar functions                                                   | • <a href="#">K_W39</a> | • egzamin - ustny, opisowy, testowy i inne | • Wykład              |
| Can formulate the requirements for a supply network and design a logistics system.                                                                                                                                                                      | • <a href="#">K_U22</a> | • kolokwium                                | • Wykład<br>• Projekt |
| Has a structured knowledge of logistics related to the Production Management and Engineering.                                                                                                                                                           | • <a href="#">K_W20</a> | • egzamin - ustny, opisowy, testowy i inne | • Wykład              |

## Warunki zaliczenia

Lecture: Written examination preceded by a pass mark in the exercises.

Project: Obtaining positive marks from two written colloquia and the activity on the project.

Final evaluation: The final grade for the course is the arithmetic mean of the grades for the individual forms of the course.

## Literatura podstawowa

1. A. Rushton,P. Croucher,P. Baker, The Handbook of Logistics and Distribution Management. Understanding the Supply Chain, Kogan Page Publishers, 2022
2. C. B. Bozarth, R. B. Handfield, Introduction to Operations and Supply Chain Management (What's New in Operations Management) 5th Edition, Pearson, 2019
3. M. Goetschalckx, Supply Chain Engineering, Springer US, 2011
4. N. Chandrasekaran, Supply Chain Management Process, Function & System Supply Chain Management, Oxford University Press, 2010
5. A. Iyer, S. Seshadri, R. Vasher, Toyota Supply Chain Management: A Strategic Approach to Toyota's Renowned System, McGraw-Hill Education, 2009
6. M. Christopher: Logistics and Supply Chain Management, Prentice Hall, New Jersey, 2005
7. G.A., Cole: Management – Theory and Practice, DP Publications Ltd., London 2002.
8. S. Chopra, P. Meindl: Supply Chain Management. Strategy, Planning and Operation, Prentice Hall, New Jersey 2001
9. R.H. Ballu: Business logistics management, Prentice Hall, New Jersey 1999

## Literatura uzupełniająca

1. Szymonik A., Logistyka produkcji, Difin, 2012
2. Fertsch M., Cyplik P., Hadaś Ł. [red.], Logistyka produkcji. Teoria i praktyka, ILiM, Poznań 2010

## Uwagi

Zmodyfikowane przez dr Katarzyna Skrzypek (ostatnia modyfikacja: 19-04-2023 17:56)

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