COURSE DESCRIPTION CARD - SYLLABUS

Course name

Process and product integration

Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

8

Laboratory classes

Other (e.g. online)

Tutorials

10

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Fcaulty of Engineering Management

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Responsible for the course/lecturer:

Prerequisites

Basic knowledge about production, logistics, economics. The student has the ability to associate and interpret phenomena occurring in the enterprise, is aware of the consequences of decisions.

Course objective

Analysis of manufacturing paradigms from a technical and business point of view. Demonstrating the need for integration between engineering and business.

Course-related learning outcomes

Knowledge

1.The student knows the basic concepts of logistics and its detailed issues and supply chain management along with issues related to products and processes and their integration. [P6S_WG_05]

2. The student knows the basic management issues characteristic of logistics and supply chain management, including issues related to products and processes and their integration.[P6S_WG_08]

3. The student knows the basic relationships within logistics and its detailed issues and supply chain management along with the relationships between products and processes. [P6S_WK_04]

4. The student knows the basic phenomena and contemporary trends characteristic of logistics and its detailed issues and supply chain management along with trends characteristic of product-process integration. [P6S_WK_05]

5. The student knows the basic methods, techniques, tools and materials used in preparing to conduct scientific research and solving simple engineering tasks in the field of product and process integration.[P6S_WK_07]

Skills

1.The student is able to search based on the subject literature and other sources and present in an orderly manner information regarding a problem falling within the framework of logistics and its detailed issues, as well as supply chain management and product-process integration. [P6S_UW_01]

2.The student is able to use appropriate experimental and measurement techniques to solve a problem within the studied subject, including computer simulation within logistics and its detailed issues, as well as supply chain management and product-process integration. [P6S_UW_03]

3. The student is able to design, using appropriate methods and techniques, an object, system or process that meets the requirements of logistics and its detailed issues, as well as supply chain management and product-process integration. [P6S_UW_07]

4.The student is able to present, using appropriately selected means, a problem within logistics and its detailed issues, as well as supply chain management and product-process integration. [P6S_UK_01]

5. The student is able to identify changes in requirements, standards, regulations, technical progress and labor market reality, and on their basis determine the need to supplement knowledge [P6S_UU_01]

Social competences

1. Student is aware of the recognition of the importance of knowledge in the field of logistics and supply chain management in solving cognitive and practical problems [P6S_KK_02]

2. Student is able to plan and manage in an entrepreneurial manner [P6S_KO_01]

3. Student is aware of the responsible fulfillment, correct identification and resolution of dilemmas related to the logistics profession [P6S_KR_01]

4. Student is aware of cooperation and work in a group on solving problems within logistics and supply chain management [P6S_KR_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Formative assessment: activity in the classroom. Summative assessment: written test, checking the knowledge obtained during the lecture, pass mark: 50% of points.

Classes: Formative assessment: skills assessment based on the partial report. Summative assessment: evaluation of the report, pass mark: 50% of the points.

Programme content

Lecture: Manufacturing Paradigms: Mass production, lean production, mass customization and personalized production. Product Design in a Global Environment: Creativity in product design. Design for Mass-Customization. Modular architecture in product design. Manufacturing Systems & Supply Chains: Dedicated, flexible, and reconfigurable systems and machines. Supply chains for global markets. Business Issues: Lean startup and business models (BMC). Financial planning. Elements of business plans.

Tutorials: Ddesign of a new product, production process, business canvas and financial plans.

Teaching methods

Lecture: informative lecture.

Tutorials: design method.

Bibliography

Basic

1. Morris R., Projektowanie produktu, Wydawnictwo Naukowe PWN, Warszawa, 2009.

2. Praca zbiorowa, Nowoczesne wzornictwo od A do Z, Wydawnictwo Olesiejuk, Ożarów Mazowiecki, 2010.

3. Durlik I., Inżynieria zarządzania, część 1, Agencja Wydawnicza Placet, Warszawa 2007.

4. Koren Y., The Global Manufacturing revolution, Wiley, 2010.

5. Pasek Z., Pawlewski P., Evolution of an integrated, project-based logistics engineering curriculum, Proceedings 2019 Canadian Engineering Education Association (CEEA-ACEG19) Conference, 2019, s. 1-7.

Additional

1. Thomas R.J., Prawdziwe historie nowych produktów, Prószyński i S-ka, Warszawa, 2001.

2. Isaacson W., Steve Jobs, Insignis Media, Kraków, 2011.

3. Pawlewski P., Juraszek R., Kowalewska M., Pasek Z., Transforming a Student Project into a Business Project: Case Study in Use of Simulation Tools [w:] Pawlewski P., Greenwood A. (ed.), Process Simulation and Optimization in Sustainable Logistics and Manufacturing, Springer, 2014, s. 167-184.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	18	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests, project preparation) [1]	32	1,0

[1] delete or add other activities as appropriate