



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Packaging in logistics

### Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

Polish

Requirements

elective

### Number of hours

Lecture

15

Laboratory classes

Other (e.g. online)

Tutorials

30

Projects/seminars

### Number of credit points

4

### Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Jacek Lewandowicz

Responsible for the course/lecturer:

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Faculty of Engineering Management

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### Prerequisites

The student starting this course should have a basic knowledge of physics and mathematics after high school basic course. In addition, participants should also understand the relationships between different areas of life sciences, correctly interpret phenomena occurring in the economy, and show readiness to deepen their knowledge.

### Course objective

The main aim of the course is to present the importance of packaging in logistic processes. The additional goal concerns development of understanding of the importance of intelligent and eco-friendly packaging as an element of competitive advantage.



## Course-related learning outcomes

### Knowledge

1. Student knows the basic aspects of mechanics, construction and operation of machines related to packaging [P6S\_WG\_02]
2. Student knows the basic topics in the field of chemical technology, materials science, commodity science and the mechanic of materials as well as their importance for production and processing of packaging [P6S\_WG\_03]

### Skills

1. Student is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market, and on their basis determine the need to supplement knowledge in the field of packaging [P6S\_UU\_01]
2. Student is able to choose the right tools and methods to solve the problems related to packaging, and to use them effectively [P6S\_UO\_02]

### Social competences

1. Student is aware of initiating activities related to the formulation and transfer of information and cooperation in society related to packaging [P6S\_KO\_02]
2. Student is aware of the need to cooperate and can create a work group to solve problems within the framework of logistics and quality management of packaging [P6S\_KR\_02]

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Knowledge acquired as part of the lecture is verified by two 30-minute colloquia carried out during the 7th and 14th lectures. The colloquia consist of 10 multiple-choice test questions that are scored equally. The passing threshold is 50%. Topics are made available to students on the e-Learning platform and during the lectures.

Tutorial: Verification of the learning outcomes as part of tutorials is based on reports submitted upon completed tasks, which are performed by participants on a regular basis. The passing threshold is 50%.

## Programme content

Lecture: Economic importance of packaging. Packaging functions. Requirements for transport packaging. Design of packaging. Quality science in packaging. Marketing aspect of packaging. Methods for production of intelligent and active packaging. Eco-friendly packaging.

Tutorial: The programme of the course both for tutorials includes topics related to the: economic importance of packaging, packaging functions, requirements for transport packaging, design of packaging, quality science in packaging, marketing aspect of packaging, methods for production of intelligent and active packaging, eco-friendly packaging.

## Teaching methods



Lecture: multimedia presentation and discussion. (informative lecture with conversational elements).

Tutorial: multimedia presentation, case study, tasks given by the teacher and discussion. (subject taksts and workshop method).

### Bibliography

#### Basic

1. Cierpiszewski R., Opakowania aktywne i inteligentne, Wydawnictwo Uniwersytetu Ekonomicznego w Poznaniu, Poznań, 2016.
2. Żakowska H., Opakowania a środowisko: wtmagania, standardy, projektowanie, znakowanie, Wydawnicwto Naukowe PWN, Warszawa, 2017.
3. Jakowski S., Opakowania transportowe - Poradnik, Wydawnictwo Naukowe PWN, Warszawa, 2017.

#### Additional

1. Lisińska-Kusnierz M., Badanie i ocena jakości materiałów opakowaniaych i opakowań jednostkowym, Wydawnicwto Akademii Ekonomicznej w Krakownie, Kraków, 2005.
2. Małysek Z., Le Thanh-Blicharz J., Lewanowicz J., Baranowska H. M., The effect of glycerol on proton relaxation phenomena in pectin colloidal solutions, Proceedings of the 15th International Conference on Polysaccharides-Glycoscience, Czech Chemical Society, Praga, 2019.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation fortutorials, preparation for tests, tasks preparation) <sup>1</sup>	55	2,0

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