



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Reverse Logistics

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### Course

Field of study

Logistics

Area of study (specialization)

Supply Chain Logistics

Level of study

Second-cycle studies

Form of study

part-time

Year/Semester

1/2

Profile of study

general academic

Course offered in

Polish

Requirements

elective

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### Number of hours

Lecture

14

Tutorials

Laboratory classes

Projects/seminars

14

Other (e.g. online)

### Number of credit points

5

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### Lecturers

Responsible for the course/lecturer:

Ph.D., D.Sc., Eng. Agnieszka Stachowiak,  
University Professor

Responsible for the course/lecturer:

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### Prerequisites

Knowledge of logistics processes and their course. Knowledge of basic technologies used in production. Awareness of the environmental consequences of product manufacture and operation.



### Course objective

To familiarize students with the goals, essence and principles of reverse logistics system operation. Students learn basic solutions used in this area.

### Course-related learning outcomes

#### Knowledge

1. Student knows the issues of production engineering and uses their knowledge in the context of reverse logistics processes [P7S\_WG\_02]
2. Student knows the issues of process mapping, process orientation in logistics and simulation of reverse logistics processes [P7S\_WG\_03]
3. Student knows the extended concepts specific to reverse logistics and closed loop supply chain [P7S\_WG\_05]
4. Student knows the extended issues in the field of reverse logistics management and closed loop supply chain [P7S\_WG\_08]
5. Student knows the detailed methods, tools and techniques characteristic of reverse logistics and closed loop supply chain [P7S\_WK\_01]
6. Student knows the best practices in reverse logistics [P7S\_WK\_04]

#### Skills

1. Student is able to make a critical analysis of the technical solutions used in the implementation of reverse logistics processes [P7S\_UW\_04]
2. Student is able to design a model of reverse logistics subsystem or solutions leading to the closing and supply chain loop using properly selected means [P7S\_UK\_01]
3. Student is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market in the field of environmental aspects taken into account in reverse logistics, and based on them determine the needs to supplement own and other knowledge [P7S\_UU\_01]

#### Social competences

1. Student is aware of the responsibility for their own work and readiness to comply with the principles of teamwork and taking responsibility for jointly performed tasks [P7S\_KR\_01]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Within the scope of the project a) on the basis of public presentation of the project results and discussion about them, b) on the basis of the substantive quality of the prepared project

in the scope of the lecture on the basis of public presentation on a given topic and answers to questions from the scope of material discussed during the lecture.

### Programme content



The lecture will discuss the basic issues of sustainable development policy and their impact on the organization of logistics processes. The impact of legislative changes on reverse logistics will be assessed. Product life cycle and product life cycle assessment (LCA) methods will be presented. The concept of closed loop supply chain and the role of reverse logistics in configuring the supply chain will be discussed. Return logistics tasks in the collection of used products and packaging will be presented. The tasks of reverse logistics in secondary production systems and in recycling systems will be characterized. An analysis of selected case studies in the area of reverse logistics will be made: automotive industry, electronic equipment, household appliances.

As part of the project, students will acquire practical skills in the field of reverse logistics management, in particular: product life cycle assessment, design of the collection network of used products, planning of material needs for the needs of secondary production and configuration of closed supply chains.

### Teaching methods

Lecture: informative lecture and chat

Project: project method, project task carried out by groups of 3-4 people in accordance with the guidelines presented in class

### Bibliography

Basic

Michniewska K., Logistyka odzysku w opakowalnictwie, Difin 2013

Szołtysek J., Twaróg S., Logistyka zwrotna. Teoria i praktyka, PWE 2016

Logistyka recyklingu zużytego sprzętu elektrycznego i elektronicznego, red. Nowakowski P, Gliwice 2015

Classification of trends and supply chains development directions / Katarzyna Grzybowska (WIZ), Agnieszka Stachowiak (WIZ) // W: Smart and sustainable supply chain and logistics - trends, challenges, methods and best practices. Volume 1 / red. Paulina Golińska-Dawson (WIZ), Kune-Muh Tsai, Monika Kosacka-Olejniak (WIZ) - Cham, Switzerland : Springer, 2020 - s. 307-322

Additional

Korzeń Z., Ekologistyka, ILIM 2001

Rosik-Dulewska C., Podstawy gospodarki odpadami, PWN 2009

Stachowiak A., Edwarczyk N., Analiza możliwości zastosowania koncepcji zamkniętej pętli łańcucha dostaw, w: Ekologiczne i ekonomiczne aspekty logistyki, Golińska P. [red.], Wydawnictwo Politechniki Poznańskiej, Poznań 2009



### Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	28	1,0
Student's own work (literature studies, preparation for tests, project preparation and presentation) <sup>1</sup>	97	4,0

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