



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Ecologistics

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### Course

Field of study

Logistics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/5

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

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### Number of hours

Lecture

15

Tutorials

Laboratory classes

15

Projects/seminars

Other (e.g. online)

### Number of credit points

3

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### Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Magdalena Graczyk-Kucharska

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Faculty of Engineering Management

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

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### Prerequisites



The student has basic knowledge of environmental protection, logistics and organization and management sciences. Can Interpret and describe: phenomena that affect the company, its logistic processes and environmental protection. Can assess the manner of achieving goals while maintaining good relationships with partners and co-workers. Is aware of his/her knowledge of logistics, environmental protection and organization and management sciences and understands and analyses related basic social phenomena.

### Course objective

The aim of the course is to familiarize students with the nature, objectives and methods of completing ecologically-oriented logistic processes and systems of pro-ecological management of production processes.

### Course-related learning outcomes

#### Knowledge

1. Student knows the basic relationships in logistics and its specific issues, i.e. ecology and pro-ecological supply chain management [P6S\_WG\_05]
2. Student is able to recognize and define the relationship between the technical and economic sphere characteristic of logistics and supply chain management in the context of waste management [P6S\_WK\_01]
3. Student knows the basic relationships in the field of logistics, ecology and supply chain management [P6S\_WG\_08]
4. Student is able to characterize best practices in logistics and pro-ecological process management in the supply chain [P6S\_WK\_06]
5. Student can indicate the basic relationships in force in logistics and ecology, including sustainable development and the logistics waste management system [P6S\_WK\_04]
6. Student knows the basic relationships and contemporary trends in the field of logistics, environmental science and its specific issues in the context of supply chain management [P6S\_WK\_05]

#### Skills

1. Student is able to search based on the literature of the subject and other sources and in an orderly manner present information on the problem falling within the scope of ecology and pro-ecological supply chain management [P6S\_UW\_01]
2. Student is able to prepare the work materials necessary to work in an industrial environment and knows the safety principles associated with this work, including safety problems in logistics [P6S\_UW\_05]
3. Student is able to make a critical analysis of a problem that falls within the scope of ecology and pro-ecological supply chain management [P6S\_UW\_06]



4. Student is able to design, using appropriate methods and techniques, an object, system or process that meets the requirements within the framework of ecology and pro-ecological supply chain management [P6S\_UW\_07]

5. Student is able to present, using properly selected means, a problem that falls within the scope of ecology and its specific issues, as well as pro-ecological supply chain management [P6S\_UK\_01]

#### Social competences

1. Student is aware of the recognition of the importance of knowledge in the field of ecology and pro-ecological supply chain management in solving cognitive and practical problems [P6S\_KK\_02]

2. Student is aware of initiating activities related to the formulation and transfer of information and cooperation in society in the field of ecology [P6S\_KO\_02]

3. Student is aware of the responsible fulfillment, correct identification and resolution of dilemmas related to the profession of logistics in the field of ecology [P6S\_KR\_01]

4. Student is aware of cooperation and work in a group on solving problems within the scope of ecology and pro-ecological supply chain management [P6S\_KR\_02]

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

##### Forming assesment

a) laboratory - each time during the meeting on the basis of a discussion on the proposed solutions to the indicated problems in the field of ecology, and during the 7th hour of laboratory classes in the form of a partial assessment of tasks carried out so far,

b) at the lecture, knowledge is verified at the 7th hour of the lecture in the form of a test consisting of 10-15 test questions (open and closed), with different scores, which is 40% of the final grade for the lecture. Pass mark for the formative assessment test: 60%.

##### Summative assessment

in the scope of the laboratory a) on the basis of the final evaluation consisting of the substantive evaluation of the partial tasks of the project (70% of the final mark from the laboratories) and the final public presentation during the last classes and discussion on the results of the project (30% of the final mark from the laboratories),

in the field of lectures b) on the basis of the substantive quality of passing the last class in writing (final test), conducted in the form of a test consisting of 10-15 test questions (open and closed), with different scores, which is 60% of the final grade from the lecture. Assessment criteria for the final test: 60%.

#### Programme content

Lecture: Conceptual assumptions of ecology. Sustainability. Circular economy. Logistics oriented internally and externally on the waste management system. Processes of recirculation of waste



materials in the economy. Ecological balances in logistic systems. Logistics of municipal waste disposal and new technologies in waste management. Designing recycling-oriented products. Pro-ecological management systems. Logistic waste management system.

Laboratories: The impact of the company's location and activity on the environment. Designing an ecological product and ecological construction. The process of delivery, production and distribution in terms of waste and environmental impact. Categories and groups of waste in the enterprise. Internal waste logistics. Logistic system of waste management in the enterprise, including subsystems: collection, transport, recovery of waste and information flows. Documentation in the field of waste management in the enterprise. New technologies in the field of waste management.

### Teaching methods

Lecture: multimedia presentation illustrated with examples given on the board - informative, problem-based lecture, work with a book, discussion.

Laboratories: multimedia presentation illustrated with examples given on the board, case study method, business stories - exercises and practical tasks.

### Bibliography

Basic

1. Korzeniowski A., Skrzypek M., Ekologistyka zużytych opakowań, Instytut Logistyki i Magazynowania, Poznań, 1999.
2. Korzeń Z., Ekologistyka, Instytut Logistyki i Magazynowania, Poznań, 2001.
3. Jabłoński J., Zarządzanie środowiskowe jako warunek ekologizacji przedsiębiorstwa. próba modelu teoretycznego, WPP, Poznań, 2001.
4. J. Jabłoński (red.), Technologie zero emisji, Wyd. PP, Poznań, 2011.
5. Jakowski S., Projekt nowelizacji zasad projektowania opakowań transportowych, Centralny Ośrodek Badawczo-Rozwojowy Opakowań, Warszawa, 2003.
6. Kowalski Z., Kulczycka J., Góralczyk M., Ekologiczna ocena cyklu życia procesów wytwórczych, PWN, Warszawa, 2007.
7. D. Burchart-Korol, M. Graczyk, K. Witkowski, Life Cycle Perspective for Improving Sustainable Supply Chain Management. Applied Mechanics and Materials, 2015, Vol. 708, s. 8-12.
8. M. Graczyk. Bilans ekologiczny jako źródło informacji środowiskowej w przedsiębiorstwie. Ekonomia i Środowisko, 2007, nr 1, s. 53-68.
9. M. . Graczyk, M. Rybaczewska-Błażejowska. Continual improvement as a pillar of environmental management. Management, 2010, Vol. 14, no 1, s. 297-305.



Additional

1. Górski M., Prawo ochrony środowiska, Wolters Kluwer Polska, Warszawa, 2009.
2. Kwaśnicka K., Odpowiedzialność administracyjna w prawie ochrony środowiska, Wolters Kluwer Polska, Warszawa, 2011.
3. Radecki W., Ustawa o odpadach. Komentarz. Wolters Kluwer Polska, Warszawa, 2009. 4. Ochrona środowiska przyrodniczego. Dobrzańska B., Dobrzański G., Kielczewski D., Wydawnictwo Naukowe PWN, 2008.
4. M. Graczyk, L. Kaźmierczak-Piwko, Społeczna odpowiedzialność biznesu w kontekście realizacji strategii zasobooszczędnej i niskoemisyjnej gospodarki w UE. Humanizacja Pracy, 2015, nr 4(282), s. 169-182.

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes, preparation for tests) <sup>1</sup>	45	2,0

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