



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Cargo management

C

### Course

Field of study

Transport

Area of study (specialization)

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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

### Number of hours

Lecture

30

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

**Number of credit points**

2

L

### Lecturers

Responsible for the course/lecturer:

Adam Redmer PhD (Hab) Eng.

Responsible for the course/lecturer:

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Faculty of Civil and Transport Engineering

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### Prerequisites

Knowledge: student has a basic knowledge of logistics (including transportation and warehousing) moreover packaging and physics as well

Skills: student is able to accumulate information, interpret it, reasoning based on it, express and justify opinions, identify, associate and interpret phenomena occurring in a practice



Social competence: student is aware of the importance and understands non-technical aspects and effects of transportation processes, including those connected with cargos

### Course objective

To give to students a basic theoretical and practical knowledge of cargo management as well as methods and techniques of forming, transporting, handling and storing cargo units in connection with a real life solutions allowing for such operations.

### Course-related learning outcomes

#### Knowledge

The student has an ordered, theoretically founded general knowledge of technology, transport systems and various means of transport

#### Skills

The student is able to obtain information from various sources, including literature and databases (both in Polish and in English), integrate it properly, interpret it and critically evaluate it, draw conclusions, and comprehensively justify his/her opinion.

#### Social competences

The student understands that in technology, knowledge and skills very quickly become obsolete

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

A final written exam based on the knowledge obtained within the lectures.

### Programme content

Cargo management – introduction to the subject: the essence of the cargo management, cargo units versus commodities, main types of cargo units, transportability, transportation losses and damage risks, shock sensitivity, basic classifications of commodities and cargo units.

Cargo units: definition, essence and purpose, cargo units forming means and techniques – classification and types including: boxes, pallets, containers and batches. Stretch wrapping and strapping.

Dimensions of cargo units and packages: basic dimension chains, dimension interrelationships of packages and cargo units – ISO containers, loading parameters of vehicles.

Labeling and identification: definition and basic legislative aspects, main types and methods of labeling, labeling of cargo units (pallets and containers), basic rules of correct labeling, barcodes, logistics label and RFID.

Transportation and handling technologies: definition, types and characteristics, selection of an appropriate technology – general rules, transportation technology for selected types of commodities – characteristics and techniques, forklifts (technical characteristics, the 13 basic moves, accessories), pallet trucks, semi-trailers and trailers, dump trucks.



Loads location and securing on vehicles: a load distribution (basic rules, trailer pins, axle loads and their measurement), factors influencing load safety, load securing – techniques: belts, fasteners, blocking and bracing, anti-sliding mats, dunnage air bags and the 10 rules of the correct load securing in transportation.

Legislative basis of transportation of selected types of commodities: transportation law versus loads that require special treatment, main types of loads that require special treatment, perishable goods, dangerous goods, transportation of animals, and oversized loads.

Transportation losses and damages: transportation claims, causes and procedures, insurances, loads monitoring.

### Teaching methods

Lectures including multimedia presentation, movies, discussions, short checking ad-hoc tests

### Bibliography

#### Basic

1. Korzeń Z.: Logistyczne systemy transportu bliskiego i magazynowania. Tom I: Infrastruktura, technika, informacja. Instytut Logistyki i Magazynowania w Poznaniu, Poznań, 1998 (in Polish)
2. Mindur L. (red.): Technologie transportowe XXI wieku. Instytut Technologii Eksploatacji – PIB, Warszawa, 2008 (in Polish)
3. Mokrzyński H.: Ładunkoznawstwo. Technologia zabezpieczenia ładunków w transporcie. WKiŁ, Warszawa, 1985 (in Polish)
4. Krasowska K., Popek M.: Ładunkoznawstwo. Wydawnictwo Uczelniane AM Gdynia, Gdynia, 2006 (in Polish)
5. Podręcznik Stosowania Systemu EAN•UCC. Instytut Logistyki i Magazynowania, Poznań, 2004 (in Polish)
6. Prochowski L. Żuchowski A.: Technika transportu ładunków. WKiŁ, Warszawa, 2009 (in Polish)

#### Additional

1. Karpiel Ł., Skrzypek M.: Towaroznawstwo ogólne. Wydawnictwo Akademii Ekonomicznej w Krakowie, Kraków, 2000 (in Polish)
2. Korzeniowski A., Skrzypek M., Szyszka G.: Opakowania w systemach logistycznych. Instytut Logistyki i Magazynowania w Poznaniu, Poznań, 2001 (in Polish)
3. Lisińska-Kuśnierczak M., Ucherek M.: Współczesne opakowania. Wydawnictwo Naukowe PTTŻ, Kraków, 2003 (in Polish)
4. Praca zbiorowa: Kody Kreskowe. Rodzaje, standardy, sprzęt, zastosowania. Instytut Logistyki i Magazynowania, Poznań, 2000 (in Polish)



5. Pusty T.: Przewóz materiałów niebezpiecznych. Poradnik kierowcy. WKiŁ, Warszawa, 2003 (in Polish)
6. Sikorski P.M., Zembrzycki T: Spedycja w praktyce. Polskie Wydawnictwo Transportowe, Warszawa, 2006 (in Polish)

#### Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	30	1,0

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