POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Equipment of means of transport

Course

Field of study	Year/Semester
Transport	1/1
Area of study (specialization)	Profile of study
Refrigerated transportation	general academic
Level of study	Course offered in
Second-cycle studies	polish
Form of study	Requirements
part-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
9	9	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

dr hab. inż. Arkadiusz Stachowiak, prof. PP

Faculty of Civil and Transport Engineering

Responsible for the course/lecturer:

dr hab. inż. Przemysław Tyczewski

Faculty of Civil and Transport Engineering

Prerequisites

KNOWLEDGE: has a basic knowledge of body design solutions

SKILLS: is able to design an isothermal body for transporting food

SOCIAL COMPETENCES: understanding the need to acquire the transferred knowledge, is aware of responsibility for their work

Course objective

Presentation of the role of additional equipment for isothermal (refrigerated) bodies for the effective implementation of food transport in controlled temperature conditions.

Course-related learning outcomes

Knowledge

Student has advanced detailed knowledge of selected issues in the field of transport engineering

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Student has knowledge about development trends and the most important new achievements of means of transport and other, selected, related scientific disciplines

Skills

Student is able to make a critical analysis of existing technical solutions and propose their improvements (improvements)

Social competences

Student understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Ongoing monitoring of preparation (discussion) and activity in the classroom. Compulsory report on each laboratory activity.

Programme content

General design characteristics of means of transport intended for transporting food in controlled temperature conditions. Multitemperature bodies in the transport of food products (design solutions for bodies and cooling units). The use of photovoltaics in cooling bodies. Alternative refrigeration equipment for use in food transport. Temperature monitoring in refrigerated bodies (legal requirements, technical solutions). Isothermal tanks - design characteristics, selected operational issues. Specialized bodies - presentation of selected cases.

Teaching methods

1. Lecture with multimedia presentation

2. Laboratory exercises - solving project tasks

Bibliography

Basic

1. Bieńczak K., Modelowanie warunków termicznych chłodniczego przewozu żywności. Wydawnictwo Politechniki Poznańskiej, Poznań, 2009.

2. Zwierzycki W., Bieńczak K. [red.] Pojazdy chłodnicze w transporcie żywności, Systherm Serwis, Poznań 2006.

3. Starkowski D., Bieńczak K., ZwierzyckiW.,Samochodowy transport krajowy i międzynarodowy kompendium wiedzy praktycznej T. 1, Zabezpieczenia ładunków oraz zagadnienia techniczno-eksploatacyjne w transporcie drogowym Poznań : Systherm D. Gazińska, 2010

Additional

1. Z. Korzeń (red): Logistyka w transporcie towarów Oficyna wydawnicza Politechniki Wrocławskiej 1998.

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Breakdown of average student's workload

	Hours	ECTS
Total workload	48	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/exam, project preparation) [1]	30	1,0

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[1] delete or add other activities as appropriate