COURSE DESCRIPTION CARD - SYLLABUS

Course name
Air conditioning in means of transport [S2Trans1-TrCh>KwŚT]

Course

Field of study
Transport

Year/Semester
2/3

Area of study (specialization)
Refrigerated Transport

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
15

Number of credit points

2,00

Coordinators

dr hab. inż. Krzysztof Bieńczak prof. PP
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Lecturers

Prerequisites

Knowledge: The student has a general knowledge of the impact of technical facilities and technologies on the environment. Skills: The student is able to define the categories of threats that constitute a specific technological process for the environment in the field of production and operation of food machinery and refrigeration equipment, and indicate ways to counteract these threats. Social competences: Working in interdisciplinary team. Ability to lead a team and expand team knowledge.

Course objective

Characteristics of the design of air conditioning systems in various types of vehicles.

Course-related learning outcomes

Knowledge:
Has a structured and theoretically founded general knowledge related to key issues in the field of transport engineering. Has advanced detailed knowledge of selected issues in the field of transport engineering.

Skills:

Can obtain information from literature, databases and other sources (in Polish and English), integrate them, interpret and critically evaluate them, draw conclusions and formulate and exhaustively justify opinions. Can assess the usefulness and the possibility of using new achievements (methods and tools) and new products of transport technology.

Social competences:
Understands that knowledge and skills very quickly become obsolete in the field of transport engineering.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
The knowledge acquired during the lecture is verified on the basis of a written exam in the form of a test. Acquired skills are verified on the basis of the project developed by the student.

Programme content

Thermal comfort. Comparative cycles for air conditioning units (direct and indirect evaporation cycle, trans critical cycle). Equipment (parking air conditioning for vehicle cabins). The specificity of the design of air conditioning systems in road, rail and sea-going vehicles. Devices for assembly and servicing of air-conditioning installations.

Course topics

none

Teaching methods

Information and problematic lecture with multimedia presentation. Project method consisting in individual realization of a multi-stage cognitive task.

Bibliography

Basic
1. B. Gaziński Klimatyzacja pojazdów samochodowych, Systherm Serwis, Poznań 2016
2. J. Grajnest, Klimatyzacja autobusów, Nawigator, Wrocław 1996
Additional
1. B. Gaziński, Technika chłodnicza dla praktyków, Systherm Serwis, Poznań 2005

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00