



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Transport of gas fuels I

Course

Field of study

Year/Semester

Transport

1/1

Area of study (specialization)

Profile of study

Engineering of Pipeline Transport

general academic

Level of study

Course offered in

Second-cycle studies

polish

Form of study

Requirements

full-time

elective

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

30

Tutorials

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

PhD Rafał Ślefarski

email: rafal.slefarski@put.poznan.pl

phone : 61 6652218

Faculty of Environmental Engineering and
Energy

Piotrowo 3 street, 60-965 Poznan

Prerequisites

Knowledge about methods of analysis of selected thermodynamic and flow phenomena occurring in the transport of gaseous fuels. Knowledge about the processes of production, purification and storage of gaseous fuels. Ability to analyze simple transport systems in terms of gas transport, energy transport, flow phenomena and environmental impact. Awareness of the need to expand the scope of acquired knowledge and skills. Ability to comply with the rules in force during lectures and laboratories, the ability to communicate with the closest environment during lectures and exercises, and to perform work in a laboratory team.



Course objective

To familiarize students with aspects of the gas fuel transport process, the production of custom gas fuels and their integration with the gas network.

Course-related learning outcomes

Knowledge

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

knows advanced methods, techniques and tools used in solving complex engineering tasks and conducting research in a selected area of transport

Skills

can - when formulating and solving engineering tasks - integrate knowledge from various transport areas (and, if necessary, also knowledge from other scientific disciplines) and apply a systemic approach, also taking into account non-technical aspects

can - using, among others conceptually new methods - solve complex tasks in the field of transport engineering, including atypical tasks and tasks containing a research component

Social competences

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:

Lecture - written exam. Obtaining credit from a minimum of 51% of the points possible to get. There is a possibility of an oral question to raise the grade.

Programme content

norms and legal acts regarding the transport of gas fuels, production, storage and transport of liquefied gas, biomass gasification processes, biogas production processes and its integration with the gas network, construction of auxiliary gas transport equipment, gas engine compressor stations, gas turbine compressors, gas turbines, gas engines, gas flares

Teaching methods

Informative lecture (conventional) (information transfer in a systematic way)

Bibliography

Basic

1. Molenda J.: Gaz ziemny. Paliwo i surowiec, WNT, Warszawa
2. Vademecum Gazownika, praca zbiorowa
3. A. Osładacz: Stacje gazowe, teoria i projektowanie



Additional

1. Dobski, T.: Combustion Gases in Modern Technologies, 2scd Ed., Wydawnictwo Politechniki Poznańskiej

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) ¹	30	1,0

¹ delete or add other activities as appropriate