

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Logistics of liquids and gases transmission by pipeline		Code 1010631331010634832
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty Engineering of Pipeline Transport	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: - Laboratory: - Project/seminars: -		No. of credits 1
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: dr inż. Przemysław Grzymiński email: lukasz.sem klo@put.poznan.pl tel. 616652235 Faculty of Machines and Transport ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Mechanical flows. Construction of pipeline systems and networks. Management of pipeline transport. [PRK6]
2	Skills	The ability to rationally assess transmission and storage. Graphical and mathematical interpretation of transmissions and sources of pipeline transport costs [PRK6]
3	Social competencies	Strategic understanding of the country's energy needs and gas. Industrial and commercial aspect of energy and gas. The psychological lack of energy and gas. [PRK6]
Assumptions and objectives of the course: To familiarize students with basic knowledge about all aspects of transport logistics / transport of liquids and gases. Preparing to manage this type of transport on the basis of qualitative and quantitative methods		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. has a structured and theoretically founded general knowledge related to key issues in the field of transport engineering - [T2A_W02 [P7S_WG]]		
2. has knowledge about development trends and the most important new achievements of transport means and other, selected, related scientific disciplines - [T2A_W04 [P7S_WG]]		
3. knows the economic, legal and other conditions of transport companies - [T2A_W08 [P6S_WG]]		
Skills:		
1. can acquire information from literature, databases and other sources (in Polish and English), integrate them, make their interpretation and critical evaluation, draw conclusions and formulate and fully justify opinions - [T2A_U01 [P7S_UW]]		
2. can communicate in Polish and English using different techniques in a professional environment and in other environments, also using transport engineering issues - [T2A_U10 [P6S_UW]]		
Social competencies:		
1. understands that in the field of transport engineering, knowledge and skills quickly become obsolete - [T2A_K01 [P7S_KK]]		
2. understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems - [T2A_K02 [P7S_KK]]		
Assessment methods of study outcomes		

Final test		
Course description		
An introduction to the subject definition of logistics, transportation, including piping, liquid and gas as cargo. Features and distinct transport logistics / transport of fluids in the background logistics / transport in general. The organization and design of the transmission network and the liquid and gas networks and their distribution: types, components and their functions. Network Management. Forecasting transmission demand. Legal aspects. Pipeline transport infrastructure in Poland. Means of transport fluids. Highlights operation of transmission systems and their monitoring		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in the lecture	15	
2. Consultation	3	
3. Preparing to pass	6	
4. Final test	3	
Student's workload		
Source of workload	hours	ECTS
Total workload	27	1
Contact hours	27	1
Practical activities	0	0