

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Ecology of Gas and Fluid Transmission		Code 1010634361010622995
Field of study Transport	Profile of study (general academic, practical) general academic	Year /Semester 3 / 6
Elective path/specialty Engineering of Pipeline Transport	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: - Classes: - Laboratory: 9 Project/seminars: -		No. of credits 1
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
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. Piotr Lijewski email: piotr.lijewski@put.poznan.pl tel. (61) 665 20 45 Faculty of Working Machines and Transportation ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	the student has a basic knowledge of environmental threats [PRK4]
2	Skills	student is able to interpret the information obtained and the ability to self-inference and opinion [PRK4]
3	Social competencies	student is aware of the dangers of environmental pollution [PRK4]
Assumptions and objectives of the course: exam		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. has basic knowledge about the life cycle of transport means, both hardware and software, and in particular about the key processes taking place in them - [T1A_W06 [P6S_WG]]		
2. has knowledge of ethical codes regarding transport engineering, is aware of the threats related to environmental protection and understands the specificity of critical systems for security reasons (mission-critical systems) - [T1A_W08 [P6S_WG]]		
Skills:		
1. is able to obtain information from various sources, including literature and databases, both in Polish and in English, appropriate to integrate them, make their interpretation and critical evaluation, draw conclusions, and fully justify the opinions they - [T1A_U01 [P6S_UW]]		
2. can see in the process of formulating and solving tasks in the field of transport engineering also non-transport aspects, in particular social, legal and economic issues - [T1A_U05 [P6S_UW]]		
3. can assess - at least in the basic scope - different aspects of risk associated with a transport undertaking - [T1A_U06 [P6S_UW]]		
4. can design elements of transport using data on environmental protection - [T1A_U12 [P6S_UW]]		
Social competencies:		
1. understands that in technology, knowledge and skills quickly become obsolete - [T1A_K01 [P6S_KK]]		
2. is aware of the importance of knowledge in solving engineering problems and knows examples and understands the reasons for malfunctioning transport systems that led to serious financial and social losses or to serious health and even life - [T1A_K02 [P6S_KK]]		

Assessment methods of study outcomes		
exam		
Course description		
Environmental hazards resulting from transport Climate change resulting from human activity Ecology concerning reduction stations and compressor stations and transmission infrastructure Threats and protection of the environment during exploration and exploitation Environmental problems associated with the construction of pipelines Ecology associated with the operation of pipelines		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in the lecture	15	
2. Strengthening the lecture	5	
3. Consultation	3	
4. Preparing to pass	3	
Student's workload		
Source of workload	hours	ECTS
Total workload	26	1
Contact hours	26	1
Practical activities	0	0