STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Technologies of Fuel Gas Networks Exploitation		**1010631321010634494**

Field of study	Profile of study (general academic, practical)	Year /Semester
Transport	**(brak)**	**1 / 2**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Engineering of Pipeline Transport	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
Second-cycle studies	**full-time**

No. of hours	No. of credits
Lecture: **2** Classes: **-** Laboratory: **-** Project/seminars: **-**	**2**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Knowledge about methods for analysis of thermodynaics iflow phenomena in transport process of geasous fuels. Knowledge about production, pretreatment and storage process of gaseous fuels. (PRK6)
2	**Skills**	The ability to analyze simple transport systems in terms of efficiency, flow phenomena and impact on the natural environment. (PRK6)
3	**Social competencies**	Awareness of the necessity to broaden the scope of acquired knowledge and skills. Ability to comply with the rules applicable during lecture and laboratory classes, ability to communicate with the closest environment during lectures and exercises and to perform work in a laboratory team (PRK6)

Assumptions and objectives of the course:

To acquaint students with technical aspects related exploitation of high and low pressure gas networks

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has extended knowledge about selected phemonena in firld of transport engineering - [T2A_W03]
2. Knows the modern technics and tools used in solving of engineering problems, and scientific works in the engineering transport - [T2A_W06]

Skills:

1. Is able to 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 during formulating and solving engineering tasks. - [T2A_U05]
2. Is able to use new conceptually methods for solving complex problems in the field of transport engineering, including atypical tasks and tasks containing a research components - [T2A_U10]

Social competencies:

1. Understands the importance of using the latest knowledge in the field of transport engineering in solving of research and practical problems - [T2A_K02] - [T2A_K02]]

Assessment methods of study outcomes

Lecture: the written examination

The evaluation of student knowledge will be held based on an answers on 5 questions from the material presented during the lectures.

Course description

Control methods of gas network in open and close systems,

metody sterowania siecią dystrybucyjną w układzie zamkniętym i otwartym, explosion hazard zones, measuring devices controlled by Scada System, noise in gas grid, Corrosion and protection against corrosion in gas network, economical efficiecny in gas industry, symulation and opytymalization process of gas networks high and low pressure

Basic bibliography:

1. Molenda J.: Gaz ziemny. Paliwo i surowiec, WNT, Warszawa
2. Vademecum Gazownika, praca zbiorowa
3. Osiadacz: Stacje gazowe, teoria i projektowanie
4. Bąkowski K, Sieci i instalacje gazowe

Additional bibliography:

1. Łaciak, M. Bezpieczeństwo eksploatacji urządzeń, instalacji i sieci gazowych

Result of average student's workload

Activity	Time (working hours)
1. Participation in the lecture	30
2. Fixing the lecture	15
3. Preparing to pass the lecture	15
4. Participation in the completion of the lecture	2

Student's workload

Source of workload	hours	ECTS
Total workload	62	2
Contact hours	32	1
Practical activities	30	1