STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Engines for Compressors and Pumps		**1010631351010622991**

Field of study	Profile of study (general academic, practical)	Year /Semester
Transport	**(brak)**	**3 / 5**
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)
First-cycle studies	**full-time**

No. of hours				No. of credits
Lecture: **1**	Classes: **-**	Laboratory: **-**	Project/seminars: **-**	**1**

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	**1 100%**
Technical sciences	**1 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	the student has a basic knowledge of mechanics and engineering and thermodynamic processes [PRK4]
2	**Skills**	the student is able to interpret received messages and formulate conclusions on the acquired knowledge [PRK4]
3	**Social competencies**	student is aware of the importance and understands the need for the use of internal combustion engines in the industry and the economy [PRK4]

Assumptions and objectives of the course:

familiar with the construction and operation of internal combustion engines and the necessity and method of use in transport

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

Knowledge:

1. has a structured, theoretically founded general knowledge in the field of technology, transport systems and various means of transport - [T1A_W03 [P6S_WG]]

2. has a structured and theoretically founded general knowledge in the field of key technical issues and detailed knowledge in the field of selected guesses of this discipline of transport engineering - [T1A_W04 [P6S_WG]]

3. knows the basic techniques, methods and tools used in the process of solving transport tasks, mainly of an engineering nature - [T1A_W07 [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, by formulating and solving tasks in the field of transport, apply properly selected methods, including analytical, simulation or experimental - [T1A_U04 [P6S_UW]]

3. can communicate in Polish and English using specialized terminology, using various techniques, both in a professional environment and in other environments, also using tools in the field of transport engineering - [T1A_U15 [P6S_UK]]

Social competencies:

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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
The basic elements of the internal combustion engine, their structure and function, systems and engine support components, motors division Circuits of internal combustion engines, motor processes-concepts and relations Basic definitions and relationships between the operating parameters of the engine; power, torque, efficiency, medium pressure turkeys and efficient energy balance of the engine, engine characteristics Supplies; fuels and oils, engine operating conditions depending on the application (stationary and traction engines), cooperation with the receiver power
Basic bibliography:
Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. participation in the lecture	30
2. consolidation of the lecture	5
3. consultation	5
4. prepare for the exam	3
5. Exam	3

Student's workload

Source of workload	hours	ECTS
Total workload	46	1
Contact hours	46	1
Practical activities	0	0

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