

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Engine oftreatment systems		Code 1010622321010622312
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty Ecology of Transport	Subject offered in: -	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: 1 Laboratory: - Project/seminars: -		No. of credits 2
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 %) 2 100% 2 100%
Responsible for subject / lecturer: dr hab. inż. Paweł Fuć email: pawel.fuc@put.poznan.pl tel. 61-6652045 Faculty of Working Machines and Transportation ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	student has knowledge of cleaning exhaust gas, the construction, operation, performance, classification, calculation of exhaust systems parameters
2	Skills	student is able to integrate the information, make their interpretation, draw conclusions, formulate and justify opinions
3	Social competencies	student is aware of and understands the consequences of negative technical aspects and engineering activities and their impact on the environment
Assumptions and objectives of the course: familiarize yourself with the methods of cleaning exhaust gas, refer to the construction of an exhaust aftertreatment and their operation, the impact on the cost of the vehicle, its maintenance and correct operation		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. He knows the terminology in English related to the engines and exhaust aftertreatment systems - [-] 2. He knows the methodology of control and diagnosis the aftertreatment systems - [-] 3. He knows the methodology of measuring exhaust emissions from vehicles with exhaust aftertreatment systems - [-] 4. He knows the applicability of particular components in vehicles of different categories - [-] 5. He knows the mechanisms of operation of an exhaust aftertreatment system - [-] 6. He has a general knowledge of the development trends of the means of transport - [-]		
Skills:		
1. He can classify categories of vehicles in terms of their level of ecological performance - [-] 2. He can integrate the information - [-] 3. He can draw conclusions and formulate and justify opinions - [-] 4. He can take the information from the literature - [-]		
Social competencies:		
1. He understands the need to learn - [-] 2. He is aware of the importance of engineering activities in terms of ecology - [-] 3. He can inspire his colleagues for learning about ecology - [-] 4. Able to independently develop their knowledge of the exhaust gas regulations - [-]		

Assessment methods of study outcomes		
Test of knowledge of exhaust aftertreatment systems. Two tests during the semester		
Course description		
Lecture ? construction, operation of engine exhaust treatment and exhaust aftertreatment systems. Exercise ? calculation of functional parameters of the components of exhaust aftertreatment systems		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. -	75	
Student's workload		
Source of workload	hours	ECTS
Total workload	58	2
Contact hours	32	1
Practical activities	26	1