

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Basics of Machine diagnostics		Code 1010631251010622992
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 5
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) full-time	
No. of hours Lecture: 2 Classes: - Laboratory: 1 Project/seminars: -		No. of credits 4
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		ECTS distribution (number and %) 4 100%
Responsible for subject / lecturer: dr inż. Grzegorz Szymański email: grzegorz.m.szymanski@put.poznan.pl tel. (61) 665 20 23 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 the techniques of measurement of mechanical and basic knowledge of modeling.
2	Skills	The student is able to solve specific problems arising in technical systems
3	Social competencies	The student is able to work in a group, taking in her various roles. Student is able to prioritize important in solving the tasks posed in front of him.
Assumptions and objectives of the course: Learning the methods and practical skills of problem solving in the field of diagnostics of machines		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. has detailed knowledge of technical diagnostics - [K1A_W15] 2. has a basic knowledge of metrology, knows: methods of measurement, characteristics of measuring instruments and their classifications - [K1A_W16]		
Skills:		
1. can obtain information from the literature, the Internet, databases and other sources, in both Polish and foreign - [K1A_U01] 2. can communicate using a variety of techniques in a professional environment and other environments using the formal record of the models of transport systems, concepts and definitions - [K1A_U02]		
Social competencies:		
1. understands the need and knows the possibilities of continuous training, knows the need to acquire new knowledge in order to develop professional - [K1A_K01] 2. is able to think and act in an entrepreneurial manner, make decisions, work for the development of the employer and society - [K1A_K07] 3. is aware of the transfer of knowledge to the public, shall endeavor to ensure that information can be understood - [K1A_K08]		
Assessment methods of study outcomes		

Exam		
Course description		
Przedmiot, cel i zakres badań diagnostyki. Metody pomiarowe w diagnostyce maszyn. Modelowanie w badaniach diagnostycznych. Diagnostyka podstawowych elementów maszyn (wałów, łożysk), przekładni zębatych, maszyn wirnikowych, maszyn tłokowych.		
Basic bibliography:		
1. Niziński S. Michalski R.: Diagnostyka obiektów technicznych. Monograficzna seria wydawnicza Biblioteka Problemów Eksploatacji, Warszawa - Sulejówkę - Olsztyn - Radom, 2002.		
Additional bibliography:		
1. Niziński S. Pelc H.: Diagnostyka urządzeń mechanicznych. WNT, Warszawa, 1980.		
Result of average student's workload		
Activity	Time (working hours)	
1. Preparation for lectures	2	
2. participation in the lecture	30	
3. consolidation of the lecture	5	
4. consultations to lecture	2	
5. Exam Preparation	10	
6. Participation in the exam	1	
7. Preparation for laboratory exercises	2	
8. Participation in laboratory exercises	15	
9. Consultation for laboratory exercises	2	
10. Strengthening exercises report content	10	
11. Preparing to pass laboratory	10	
12. Participation in completing	1	
Student's workload		
Source of workload	hours	ECTS
Total workload	90	4
Contact hours	51	2
Practical activities	40	2