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- [T1A_K02]							

Assessment methods of study outcomes						
Written examination and credit on the basis of written test and partial marks from laboratory classes.						
Course description						
Anthropotechnical system - operator in an operating system. Possibilities and me	Anthropotechnical system - operator in an operating system. Possibilities and methods of diagnosing the operator.					
Introduction to the issues of technical diagnostics of rail vehicles. Diagnostic processes and signals as a source of information about the technical condition of rail vehicles. Methodology of building a diagnostic system. From functional assumptions to management of measurement data and inference. Diagnosis of railway vehicles on the basis of working and accompanying processes, defectoscopy. Diagnostics of the gear system, combustion engine, electric machines and auxiliary equipment. Diagnostics of wagons. Technical and organizational conditions for the application of diagnostics in the system of rail vehicles exploitation.						
Methodology of building a basic diagnostic system in the LabView environment? Multisymptomicity of failures and ways of integrating measurement systems for monitoring the technical condition of selected systems and assemblies of railway vehicles.						
Basic bibliography:						
1. R.B. Randall: Vibration based condition monitoring, Wiley, 2011.						
 Niziński S. Michalski R.: Diagnostyka obiektów technicznych. Monograficzna seria wydawnicza Biblioteka Problemów Eksploatacji, Warszawa - Sulejówek - Olsztyn - Radom, 2002 						
3. C. Cempel, F. Tomaszewski: Diagnostyka Maszyn. Zasady ogólne, przykłady zastosowań. M.C.N.E.M.T, Radom 1992.						
Additional bibliography: Result of average student's workload						
Activity	Time (working hours)					
1. Preparation to the lecture		1				
2. Participation in the lecture	30					
3. Consultations for lectures	1					
4. Preparation for the examination	1					
5. Participation in the exam	1					
6. Participation in laboratory classes	30					
7. Strengthening the content of laboratory classes	1					
8. Consultation to the laboratory		1				
Student's workload	-	-				
Source of workload	hours	ECTS				
Total workload	73	2				
Contact hours	64	2				
Practical activities	35	1				