

Information sheet for the course
Reliability and safety of cars

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of special technology</i>	
Course unit code: <i>SaOA/B/2-40/d</i>	Course unit title: <i>Reliability and safety of cars</i>
Type of course unit: <i>compulsory</i>	
Planned types, learning activities and teaching methods: <i>State examination subjects, attendance method</i>	
Number of credits: <i>1</i>	
Recommended semester: <i>6th semester in the 3rd year (full-time)</i> <i>8th semester in the 4th year (part-time)</i>	
Degree of study: <i>I. (bachelor)</i>	
Course prerequisites: <i>SaOA/B/2-16/d reliability cars, SaOA/B/2-15/d car safety, SaOA/B/2-17/d Autodiagnostika</i>	
Assessment methods: <i>Prerequisites Completed state examinations. Presentation of thesis with the terms in time.</i>	
Learning outcomes of the course unit: <i>Verification of independence and professional preparedness of the theoretical field of car reliability, safety of cars and car diagnostics. use practices, methods and means of carrying part of knowledge for solving problems in the field of knowledge SB maintenance of machinery and equipment for the first stage of study.</i>	
Course contents: <i>Reliability cars - Basics of reliability. Deterministic expressions of partial characteristics observed variables and indicators. Items monitoring, operational reliability, events, conditions, disorders. Renewed and non-renewed objects. Reliability, monitored variables and indicators. Maintainability, deterministic monitored variables and indicators. Ensuring the maintenance of monitored variables and indicators. Emergency, monitored variables and indicators. Life. Diagnostikovateľnosť. Shelf. They monitored variables and indicators. Reliability and human impact on the reliability, quality and safety. Initial information collection and data processing. Reliability tests, reliability and durability. Information system reliability. Use of the results of monitoring and evaluation of reliability in practice. Car Security - User Security cars. Biomechanics. Passive safety of vehicles, air bags, seat belts, active headrests. Active safety, optimizing the transmission of forces between the tire and the road surface, anti-lock and traction control systems, engine and brake control, differential lock control, optimize driving dynamics, controllability and directional stability. The car at the end of their life cycle. Intelligent transport systems. Self-diagnostics - Methods of technical diagnostics. Diagnosis of mechanical systems of the car. Diagnostic tools and methods of diagnosis workshop. Condition monitoring of motor vehicles using the diagnostic tool. Standards in diagnosis, OBD, OBD2 (OBDII, EOBD). Stock ECU diagnostics. Diagnostic equipment, cabin panels. Parallel imaging using digital storage oscilloscopes.</i>	
Recommended of required reading: <i>LIPTÁK, P., STODOLA, J.: Spol'ahlivosť strojov a zariadení určených pre špeciálnu techniku. TUAD Trenčín, 2009. ISBN 978-80-8075-418-1</i> <i>JAMRICHOVÁ, Z., ČORŇÁK, Š., STODOLA, J., STODOLA, P. Bezpečnosť automobilov. Fakulta špeciálnej techniky, TnUAD v Trenčíne 2012. ISBN 978-80-8075-591-1.</i> <i>VLK, F. : Zkoušení a diagnostika motorových vozidel, 2. vydání, Nakladatelství a vydavatelství VLK, Brno 2005, ISBN 80 – 239 – 3717 – 0</i>	
Language: <i>Slovak</i>	
Remarks: <i>Subject of the state examination.</i>	
Evaluation history <i>Total number of students being evaluated: 0</i>	

A	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: <i>prof. Ing. Alexej Chovanec, PhD.</i>					
Last modification: <i>15.4.2014</i>					
Supervisor: <i>prof. Ing. Alexej Chovanec, PhD., guarantee of the study program „Vehicles Maintenance and Repair“</i>					