

Information sheet for the course Construction of special mobile technology I

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of special technology</i>	
Course unit code: <i>UŠMT/I/1-66/d</i>	Course unit title: <i>Construction of special mobile technology I</i>
Type of course unit: <i>compulsory</i>	
Planned types, learning activities and teaching methods: <i>Lectures 2 hours per week / laboratory exercises 2 hours per week</i>	
Number of credits: <i>5</i>	
Recommended semester: <i>2st semester in the 1st year (full-time) 3st semester in the 2nd year (part-time)</i>	
Degree of study: <i>II. (engineer)</i>	
Course prerequisites: <i>SaOA/B/I-64/e Car construction II.</i>	
Assessment methods: <i>100% participation in laboratory exercises, the attainment of goals laboratory exercises, min. 60% attendance at lectures, properly Term paper, demonstrates knowledge of subject content in written and oral examination.</i>	
Learning outcomes of the course unit: <i>The student will acquire a comprehensive overview of the construction of special passports mobile technology, movement, turning and process management direction, braking, suspension and patency and protection strip special mobile equipment. Learn computational approaches, trends in and the resulting requirements for the design and manufacture of strip special mobile equipment.</i>	
Course contents: <i>Definitions, requirements, distribution and main part of the wheel of a special mobile equipment. The requirements for mobility, functionality, protection and security service special wheeled mobile technology. Special requirements for special mobile equipment. MOVEMENT special mobile wheeled equipment - equations of motion. Determination of the required performance powerplant analysis and dynamic tensile properties - traction calculations, dynamic characteristics of mobile wheeled equipment. Structural arrangements, requirements and principles of driveline special mobile wheeled vehicles and their evaluation. Characteristics power units, starting clutch, torque converter, mechanical, semi-automatic and automatic conversion powertrain components, shafts, differentials and transfer case, wheel adapters. Purpose, distribution and main chassis of wheeled vehicles, the suspension and axles. Systems and mechanisms axle suspension and the suspension. With local regulations and ECE for the construction of the management, design configuration management mechanisms, power steering. Purpose and process of braking wheel vehicle brake distribution system according to STN, main parts, principles of operation, control of braking and braking, the ABS electronic control. Electronic assistance systems in the design of wheeled mobile technology. Patency, analysis capability of overcoming terrain and water barriers special wheeled mobile technology. Ballistic protection, protection against mines, improvised explosive devices, protection of special techniques in the visible and infrared. Valuation of wheeled mobile technology. Computational approaches to selected elements, nodes and mechanism of wheeled mobile technology. Trends in the construction of wheeled mobile special equipment</i>	
Recommended of required reading: <i>ERENCEY, V., DROPPA, P.: Mechanika pohybu pásovej mobilnej techniky. ISBN 80 8075 049 1, s. 172. TnU Trenčín, 2005.</i> <i>DROPPA, P.: Analysis of systems track vehicles chassis springing. - 1. ed. - Liptovský Mikuláš : Academy of armed forces of general M. R. Štefánik, 2006. - 84 p. - ISBN 80-8040-279-5.</i> <i>DROPPA, P. - ŠTIAVNICKÝ, M.: Modeling of kinematic and strength relations in mobile technics.: - 1. vyd. Liptovský Mikuláš : Armed Forces Academy of General Milan Rastislav</i>	

Štefánik, 2012. - 126 s. - ISBN 978-80-8040-455-0.

SLOBODA, A.- FERENČEY, V.- HLAVŇA, V.- TKÁČ, Z.: *Konštrukcia kolesových a pásových vozidiel. [učebnica]* - 1.vyd. TU Košice. , Sjf TU Košice, 2008. - 558 s. ISBN 978-80-89232-28-4.

Eliáš, J.: *Špeciálna mobilná technika na pásových podvozkoch [skriptá]* : Charakteristiky, technické údaje a popis / - 1.vyd. - Trenčín : TnUAD FŠT, 2002. - 266 s. - ISBN 80-88914-63-9..

Language: *Slovak*

Remarks:

Subject is required.

Evaluation history:

Total number of students being evaluated: 8

A	B	C	D	E	FX
1,03	11,63	16,28	27,91	41,86	1,30

Lecturers: *Assoc.prof. Ing. Peter Droppa, PhD. - lecturer*
Ing. Štefan Timár. - instructor

Last modification: *15.4.2014*

Supervisor: *prof. Ing. Alexej Chovanec, CSc., guarantee of the study program „Maintenance and Repair of Special Mobile Technology“.*