

Information sheet for the course Construction of special mobile technology II

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of special technology</i>	
Course unit code: <i>UŠMT/I/1-67/d</i>	Course unit title: <i>Construction of special mobile technology II</i>
Type of course unit: <i>compulsory</i>	
Planned types, learning activities and teaching methods: <i>2 hours of lectures per week, 2 hours laboratory exercises per week</i>	
Number of credits: <i>5</i>	
Recommended semester: <i>3rd semester in the 2nd year (full-time) 4th semester in the 2nd year (part-time)</i>	
Degree of study: <i>II. (engineer)</i>	
Course prerequisites: <i>UŠMT/I/1-66/d Construction of special mobile technology I</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>Definition, classification and main strip of special mobile equipment. The requirements for mobility, firepower, protection, shooting skills and operational safety strip special mobile equipment. Conceptual design of a special strip of mobile technology. MOVEMENT special mobile tracked vehicles - equations of motion. Analysis of tensile and dynamic properties - tensile calculations, dynamic characteristics, braking, braking methods, design and principles of operation of the brakes mobile tracked vehicles. Structural arrangements, requirements and principles of the belt drive system of special mobile equipment, the characteristics of power units, starting clutch, torque converter, mechanical, semi-automatic and automatic conversion powertrain components, shafts, final reduction drive wheels. Methods direction changes tracked vehicles, Constructional arrangement and operation of the direction of the management, control mechanisms. Combined directional mechanisms. Analysis of vibrations mobile tracked vehicles, the effect of vibrations on the hull and turret shooting skills and techniques crew. The distribution and the main part of the suspension systems, types of springs, torsion bars, dampers tracked vehicles. Purpose, distribution and main chassis of tracked vehicles, mobile wheel suspension, rockers, belts, drive wheels, idler gear - requirements, stress, materials, technology of their production. Patency, analysis capability of overcoming terrain and water barriers special wheeled mobile technology. Hull and turret special mobile tracked vehicles, requirements, design, materials and manufacturing. Ballistic protection, protection against mines, improvised explosive devices, protection of special techniques in the visible and infrared. Measures to reduce noise and vibration load special passports mobile technology. Computational approaches to selected elements, nodes and mechanism waist mobile technology. Trends in the construction of strip special mobile 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. 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>	

DROPPA, P. - ŠTIAVNICKÝ, M.: Modeling of kinematic and strength relations in mobile technics.: - 1. vyd. Liptovský Mikuláš : Armed Forces Academy of General Milan Rastislav Štefánik, 2012. - 126 s. - ISBN 978-80-8040-455-0.

SLOBODA, A.- FERENCEY, 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. Subject is optional

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“.*