

Energetic machines Course description

Code: 2Y032	Abbr: EEMT_E	Title: Ergonomics and Ecology of Means of Transport	
MSc. degree programme in Energetic Machines and Equipment For specialisation in: Combustion engines, Railway vehicles, Transport and manipulation equipment			
Lecturer:	Assoc. prof. Dalibor Barta, PhD., Department of Transport and Handling Machines		
Semester: summer	Number of hours: <i>Lectures - Seminars - Laboratory work</i>		ECTS Credits:
Recommended:	Per week: 2-2-0	Total per semester: 26-26-0	6
Prerequisites: 2B023 Transportations systems, 2B036 Theory of means of transport			
Assessment: - recognition of course work - written and oral examination			
Aims and objectives: <p>The aim of the subject is to illustrate to the students' basis of ergonomics and ecology, acquire new solutions for creating optimal conditions for man activity in contact with technique and environment, with bearing on means of transport. The graduating of the subject allows applying acquired knowledge to improve working conditions of a man already at designing and construction of equipment of transport and manipulation technique and reduction of ecological effects by the activity of this equipment on the man.</p>			
Course content: Description of system Man-machine - environment. Man and working conditions – characteristics of work, workload. Constraints of man – performance, sensible, kinetics, space, time. Ergonomic parameters – anthropometric, working stand (machine), workbench. Ergonomic and ecological criteria for means of transport. Ecological effects from the operation of transport and manipulation technique and their detection. The legislative basis for ergonomics and ecology in transport and manipulation technique.			
Recommended texts: B. M. Pulat, Fundamentals of Industrial Ergonomics (1992); M. S. Sanders and E. J. McCormick, Human Factors in Engineering and Design (1993). HLavňa a kol.: Dopravný prostriedok – teória, EDIS ŽU Žilina, 2006, ISBN 80-8070-498-8 Hlavňa, V., Kukuča, P., Stuchlý, V., Zvolenský, P.: Dopravný prostriedok a životné prostredie, VŠDS Žilina, 1996, ISBN 80-7100-306-9. Chundela, L.: Ergonomie v praxi, vydavateľstvo Práce Praha, 1984. Magazines, laws, promulgations SR, regulations EU, EHK-OSN.			
Note:		Date of the last revision: 05.12.2022	