

E – Charakteristika studijního předmětu/Subject Specification				
Název studijního předmětu / Subject title	Laboratory 1			
Typ předmětu / Subject type	Obligatory		dopor. ročník / semester/ recommended year / semester	1/1
Rozsah studijního předmětu / Study load in hours and credits	0+4	hod. za týden / lectures per week	4	Kreditů / Credits 5
Jiný způsob vyjádření rozsahu / Other expression of study load	14 weeks, each 4 hours of laboratory seminar			
Způsob zakončení / Assessment	credit		Forma výuky / Form of teaching	Lab. seminar
Další požadavky na studenta / Other demands on students	none			
Vyučující / Lecturers				
Doc. Ing. Antonín Potěšil, CSc. (tutor),				
Stručná anotace předmětu / Subject annotation				
Objective of the course is to introduce laboratory technology planning used for characteristics identification and electromagnetic systems responses to students. Through suitably chosen laboratory topics the theory and practical solutions of variety of experimental work and functional telemetry is introduced to students.				
The part of the presentations is the characteristics and demonstration of measuring chains used in experimental and developing units of industrial subjects and engineering companies.				
Informace ke kombinované nebo distanční formě / Information for students in external form of study				
Rozsah konzultací (soustředění) / Consultations, study meetings		hodin za týden / hours per week		
Rozsah a obsahové zaměření individuálních prací studentů a způsob kontroly / Individual student work – type, load, content and the way of checking				
<div>1. Rheologic models of technical materials under the simple tension and compression</div> <div>2. Small corruption measurement by means of resistance strain gauge</div> <div>3. Strain-gauge sensor for static force measurement with the usage of DEWE-RACK-4 measurement system and HOTTINGER BALDWIN MESSTECHNIK - DAK 1 kit (individual recorded measurement)</div> <div>4. Stress on the body surface measurement – thin-walled pipe under the torsion and the internal overpressure</div> <div>5. Plane state of stress – strain-gauge rose (individual recorded measurement)</div> <div>6. Design and technological stress raisers (individual recorded measurement)</div> <div>7. Mechanical vibrations measurement – the use of Ometron VH-1000-D vibrometer (individual recorded measurement)</div> <div>8. Impact – the use of high-speed recorder Olympus iSpeed2 (individual recorded measurement)</div> <div>9. Fatigue damage of the construction on time variable stress</div> <div>10. FEM for solving flat bar constructions</div>				
Studijní literatura a studijní pomůcky / Reading list and study utilities				
Humen, Vl., Potěšil, A., Lufinka, A.: Experimental mechanics - Selected lessons. Learning script for LA 1 and LA 2 for consequential master degree studies at the FM TUL. Liberec 2006.				
Klaboch, L.: Experimental methods I. ČVÚT mimeographed, Praha, 1982.				
Manuals and web pages of manufacturers and suppliers of measure technology and units.				