

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Physical noxiousness				
Head of course	PhD Marko Kršulja, Lecturer				
Study programme	Professional undergraduate study Occupational Safety				
Status of a course	Obligatory				
Year of study	2.	Semester	IV	ECTS credits	6
Teaching plan (L + E + S+ Pr)	3+3+0+0				
Goals of a course					
To acquaint students with the sources of physical harm, methods of testing physical harm and the negative impact of harm on people. Analyze physical harms in accordance with the rules and standards and devise a proposal for a solution to the protection against physical harm.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 1: Explain the basic principles of mathematics, physics, chemistry, electrical engineering and mechanics required for work in the field of occupational safety and health. Outcome 2: Perform and interpret measurements in the field of occupational safety in a laboratory and in the work environment. Outcome 3: Assess risk and recommend protective measures. Outcome 4: Evaluate protective measures with respect to danger encountered in the work process. Outcome 5: Recommend measures to eliminate or reduce danger, damage and effort. Outcome 7: Evaluate dangers, damage and effort. Outcome 8: Organize a system of prescribed procedures and documents in the field of occupational safety. Outcome 9: Conduct training of subjects in the field of occupational safety. Outcome 12: Recommend solutions in the field of occupational ergonomics, security and safety in technological processes. Outcome 13: Use quantitative and qualitative methods in the analysis of data in the field of occupational safety. Outcome 14: Determine legislation and standards covering occupational safety.					
Expected learning outcomes on a level of a course					
1. Distinguish physical noxiousness's. 2. Apply physical noxiousness's testing methods. 3. Recognize the negative effects of physical noxiousness's on humans. 4. Analyse physical noxiousness's in accordance with regulations and standards. 5. Develop a proposal for a solution for the protection against physical noxiousness's.					
Content of a course					
Noise: Basic concepts, volume and units. Physical characteristics of sound. Human ear and the effect of noise on man. Criteria to evaluate noise, regulations and principles. Measuring noise and instruments. Protection from noise. Vibrations: What creates vibrations and parameters to describe them. Structure and characteristics of human body. Effect of vibrations and strokes on human body and evaluation. Methods and procedures of safeguarding from vibrations and strokes. Lights: Basic concepts and calculations. Structure and function of human eye, field of sight and its segments. Electrical sources of light, lamps and technical characteristics of light. Indoor and outdoor illumination. Ionizing radiation: Introduction to ionizing radiation. Types and source of ionizing radiation. Measurement. Human environment and radiation consequences. Protection from radiation. Temperature factors of the working environment: Composition, temperature and humidity of air. Main sources of body energy and its consumption. Forms of temperature exchange. Temperature balance equation. Limits of tolerance. Methods of protection.					
Teaching modes	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network		

	<input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes	<input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____																																																
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Students' obligations																																																		
Grading, evaluation and monitoring of students' work continuously during lectures and exams																																																		
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1.	Regent, A., Kršulja, M.: "Fizikalne štetnosti - zbirka riješenih zadataka", Veleučilište u Rijeci,
2.	Sever, S. (2007): Fizikalne štetnosti, IPROZ, VŠSR, Zagreb, skripta
3.	Materials published on the course pages
Additional literature	
1.	Jelaković, T. Zvuk, sluh, arhitektonska akustika, Školska knjiga, Zagreb, 1978.
2.	Bobanac, N.: Fizikalne štetnosti, utjecaj vibracija na ljude, Zagreb 2002., IPROZ

