

Study program: Environmental Protection			
Course title: Noise and Vibration in Work Environment			
Professor/assistant: Violeta Stojanović			
Type of course: elective			
ECTS credits: 6			
Pre-requisites: -			
Aims of the course: Prepare students to: acquire the appropriate level of theoretical and practical knowledge in the field of mechanical and sound oscillations, deal professionally with noise phenomena as an inevitable companion and an integral aspect of modern life.			
Learning outcomes: Student will be able to: identify and describe the phenomenon of vibration and acoustical processes in engineering practice, identify problems related to diagnostics, metrology and the risks that these processes generate in their work, implement theoretical knowledge into practical calculations and design of noise and vibration protection systems.			
Syllabus			
<i>Theoretical part</i>			
The concept of vibration; kinematics and dynamics of vibrations; vibration of mechanical systems; vibration and human body; measurement and vibration analysis; the physical concept of noise - the phenomenon of sound and sound waves, a wave equation; physiological concept of noise - frequency dynamic range of sensitivity, noise level, volume, complex sound; measurement and noise analysis; indoor noise - sound field analysis using statistical theory, acoustic room processing, sound isolation; communal noise - sources, types of sources, industrial noise; traffic noise; models for forecasting noise; control and noise estimation.			
<i>Practical part</i>			
Calculation exercises.			
Literature			
<ol style="list-style-type: none"> 1. D. Cvetković, M. Prašćević, Buka i vibracije, Fakultet zaštite na radu u Nišu, 2005. 2. B.J. Smith, R.J Peters, S. Owen, Acoustics and Noise Control, Addison Wesley Longman, 1996. 3. D. Cvetković, M. Prašćević, Buka i vibracije-zbirka zadataka sa teorijskim osnovama, Izdavačka jedinica Univerziteta u Nišu, 1998. 			
Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 3	Research work:	
Teaching methods Combined – interactive with solving practical examples.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	5	written exam	-
practical training	5	oral exam	40
colloquium(s)/seminar papers	40/10		
Sum	60	Sum	40