

<i>Name of the course</i>	Medical Ecology and Occupational Health			Code	
<i>Type of study program Cycle</i>	Integrated university study of medicine			Year of study	VI
<i>Credits (ECTS) :</i>	3,5	<i>Semester</i>	XI	Number of hours per semester (l+e+s)	90 (30+30+30)
<i>Status of the course:</i>	mandatory	<i>Preconditions:</i>	Passed all exams from the 5 th year	<i>Comparative conditions:</i>	
<i>Access to course:</i>	6 th year medical students			<i>Hours of instructions:</i>	According to plan and program
<i>Course teacher:</i>	Professor Jagoda Doko Jelinić, MD, PhD				
<i>Consultations:</i>	As agreed.				
<i>E-mail address and phone number:</i>	jdoko@snz.hr				
<i>Associate teachers</i>	<ol style="list-style-type: none"> 1. Professor Ivan Vasilj, MD, PhD 2. Assistant professor Krunoslav Capak, MD, PhD 3. Assistant professor Jelena Ravlija, MD, PhD 4. Boženka Galić Tirić, MD 5. S. Šarac, dipl. ing 6. Amila Puzić, MD, MSc 7. Fadil Pašić, MD, MSc 				
<i>Consultations:</i>					
<i>E-mail address and phone number</i>					
<i>The aims of the course:</i>	<p>The aims of this course are:</p> <p>Understating the chemical, biological and physical factors of the immediate living and working environment, including extraordinary conditions that may adversely affect human health. Applying the methods for monitoring exposure to harmful environmental factors and assessing health effects.</p>				
<i>Learning outcomes (general and specific competences):</i>	<p><u>General competences:</u></p> <ul style="list-style-type: none"> • Applying the independent learning. • Understanding the dependence of health and disease on the chemical, biological and physical factors related to the immediate living and working environment, including 				

	<p>extraordinary states.</p> <ul style="list-style-type: none"> • Synthesis of measures for preventing and mitigating ecological disasters. <p><u>Specific competences:</u></p> <ul style="list-style-type: none"> • Evaluation of the results of environmental monitoring and biological monitoring. • Applying an occupational history and evaluation of the harmful health effects of environmental factors, conditions and modes of work. • Evaluation of the urgency and the need for action according to the standard procedures in case of poisoning and accidents at work, if conditions permit. • Evaluation of the effects of long-term exposure to low levels of pollution and low radiation doses. • Applying knowledge on causes and prevention of occupational injury, occupational diseases, work-related illness and sports, and other diseases that are important to the morbidity of workers as a cause of temporary or permanent disability. • Synthesis of attitudes on the well-being of a multidisciplinary approach in solving the complex relationships of life and work conditions. • Applying the knowledge about participation in work of multidisciplinary teams. 			
Course content (Syllabus):	The course Medical Ecology and Occupational Health consists of 20 teaching units. Each thematic unit includes: 1-2 hours of lectures, 1-3 hours of seminars and 1-3 hours of exercises.			
Format of instruction (mark in bold)	Lectures	Exercises	Seminars	Independent assignments
	Consultations	Work with mentor	Field work	Other
	Remarks:			
Student responsibilities	Students are required to attend classes (lectures, exercises, seminars) and to prepare the seminar work.			
Screening student work (mark in bold)	Class attendance	Class participations	Seminar essay	Practical training
	Oral exam	Written exam	Continuous assessment	Essay

Detailed evaluation within a <i>European system of points</i>			
STUDENTS RESPONSIBILITIES	HOURS	PROPORTIONS OF ECTS CREDITS	PROPORTION S OF MARK
Class attendance and participations	0	0	0%
Seminar essay	15	0,5	0%
Written exam	45	1,5	50%
Oral exam	50	1,5	50%
<p>Further clarification:</p> <p>The exam is written and oral.</p> <p>Written test (completed written test is 50% of the grade)</p> <p>All students who weren't absent from the classes have the right to take the tests. Also, those who pass additional exam from lectures during which they were not in class (20%) can approach to written part of the test.</p> <p>Written exam contains of 90 questions.</p> <p>The criteria for evaluating a written exam are: the total percentage of correct answers required for a positive assessment is 60%.</p> <p>A written exam is a condition for approaching the oral exam.</p> <p>The final grade that is enrolled into the index is the average grade of the written and oral part of the exam.</p> <p>According to the Book of Rules, the final grade is obtained as follows: A = 91-100% 5 (excellent) B = 79 to 90% 4 (very good) C = 71 to 80% 3 (good) D = 61 to 70% 2 (sufficient) F = 0 to 60% 1 (insufficient)</p>			
Required literature:	<ol style="list-style-type: none"> 1. Ljubičić M, Doko Jelinić J, Capak K. : Zdravstvena ekologija, Medicinski fakultet, Mostar2014. 2. Šarić M, Žuškin E. MEDICINA RADA I OKOLIŠA, (Odabrana poglavlja), Medicinska naklada, Zagreb, 2002. 		
Optional literature:	<ol style="list-style-type: none"> 1. Valić et al. ZDRAVSTVENA EKOLOGIJA, Medicinska naklada, Zagreb, 2001. 2. Beritić-Stahuljak D, Žuškin E, Valić F, Mustajbegović J: MEDICINA RADA, Medicinska naklada, Zagreb, 1999. 3. Senta A, Pucarín-Cvetković J, Doko Jelinić J. KVANTITATIVNI MODELI NAMIRNICA I OBROKA, Medicinska naklada, Zagreb, 2004. 		

<i>Additional information about the course</i>	Monitoring methods of teaching quality: <ul style="list-style-type: none"> - student questionnaire - quality analysis by students and teachers - exam results analysis - report of the office for teaching quality - external evaluation (visit of team for quality control)
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Annexes: calendar classes

<i>The number of teaching units</i>	TOPICS AND LITERATURE
<i>I.</i>	Title: Environment and health
	Short definition and tasks of health ecology, historical development
	Literature: mandatory and additional
<i>II.</i>	Title: Chemical factors in the general environment
	Short description: Health effects of metals, gases and vapors, pesticides
	Literature: mandatory and additional
<i>III.</i>	Title: Physical factors in the general environment
	Short description: noise, health effects of noise exposure, electromagnetic radiation
	Literature: mandatory and additional
<i>IV.</i>	Title: Biological environmental factors
	Short description: diseases caused by microorganisms, diseases of portable vectors
	Literature: mandatory and additional
<i>V.</i>	Title: The Basics of ecological toxicology
	Short description: Input routes, toxicity tests, health and environmental standards
	Literature: mandatory and additional
<i>VI.</i>	Title: Health effects of air pollution
	Short description: atmosphere pollution, air pollution of enclosed spaces
	Literature: mandatory and additional
<i>VII.</i>	Title: Health aspects of housing and urbanization
	Short description: Economic development, industry, energy and traffic
	Literature: mandatory and additional
<i>VIII.</i>	Title: Global health and environmental problems
	Short description: global warming, dewatering of ozone layer, light pollution, soil contamination
	Literature: mandatory and additional
<i>IX.</i>	Title: Nutrition and Health
	Short description: public health meaning of nutrition, methods of assessment of nutrition status, planned and evaluation of nutrition
	Literature: mandatory and additional
<i>X.</i>	Title: Nutritional Supplements
	Short description: food contaminants, laboratory testing of health food

	hygiene, monitoring of drinking water health
	Literature: mandatory and additional
XI.	Title: Water and Health
	Short description: water supply and disposal of wastewaters, laboratory testing of drinking water health, field exercise: visit to the water supply facility, visit to the waste water treatment system
	Literature: mandatory and additional
XI.	Title: Waste disposal
	Short description: municipal waste, medical waste
	Literature: mandatory and additional
XII.	Title: General principles of medicine work
	Short description: Occupational health work, definition, classification and mechanism of industrial poisoning
	Literature: mandatory and additional
XIII.	Title: Professional hazards
	Short Description: physical, chemical and biological factors
	Literature: mandatory and additional
XIV.	Title: Physiology and psychology of work
	Short description: Physical aspects of workloads, ergonomic approach to man-machine system - working environment, fatigue and prevention measures
	Literature: mandatory and additional
XV.	Title: Professional diseases and diseases related to work
	Short Description: Professional dermatoses, professional malignant tumors, gestational diseases, back pain syndrome
	Literature: mandatory and additional
XVI.	Title: Health risks of selected occupations
	Short description: health workers, traffic workers, aluminum industry
	Literature: mandatory and additional
XVII	Title: Reproductive health and workplace
	Short description: mutagens, carcinogens, endocrine disruptors in the working environment
	Literature: mandatory and additional
XVIII	Title: Environmental control
	Short description: evaluating workplace factors, monitoring, assessing endangering and combating exposure to factors in the workplace
	Literature: mandatory and additional
XIX	Title: Assessment of work ability
	Short description: Work medicine clinic, assessment of temporary disability for work
	Literature: mandatory and additional
XX.	Title: Occupational safety
	Short description: technical, administrative measures of protection, personal protection
	Literature: mandatory and additional