

**DESCRIPTION OF COURSE UNIT FOR DOCTORAL STUDIES  
AT VILNIUS UNIVERSITY**

<b>Scientific Area/eas, Field/ds of Science</b>	Medical and Health Sciences (M 000): Public Health (M 004)			
<b>Faculty, Institute, Department/Clinic</b>	Faculty of Medicine Institute of Health Sciences Department of Public Health			
<b>Course unit title</b> (ECTS credits, hours)	<b>Environmental Health</b> 6 credits (180 hours)			
<b>Study method</b>	<b>Lectures</b>	<b>Seminars</b>	<b>Consultations</b>	<b>Self-study</b>
Number of ECTS credits	-	-	0,5	5,5
<b>Method of the assessment</b> (in 10 point system)	<p>Measured on a scale from 1 to 10.</p> <p>Pass:</p> <p>10 (excellent) - excellent, exceptional knowledge and skills.</p> <p>9 (very good) - strong knowledge and skills.</p> <p>8 (good) - better than average knowledge and skills.</p> <p>7 (average) - average knowledge and skills, there are minor errors.</p> <p>6 (satisfactory) - knowledge and skills (skills) are worse than the average, there are errors.</p> <p>5 (poor) - the knowledge and skills (skills) meet the minimum requirements.</p> <p>Fail: 4, 3, 2, 1, 0 (unsatisfactory) - met minimum requirements.</p>			
<b>PURPOSE OF THE COURSE UNIT</b>				
<p>To broaden horizons in the field of environmental health by providing theoretical and practical knowledge based on the latest research on the most pressing issues related to human activities. To promote an interdisciplinary holistic approach to the human relationship with nature assessing fundamental environmental and health issues and reducing the impact of individual negative factors on the environment and human health. To develop the ability to apply modern public health methods in the field of environment.</p>				
<b>THE MAIN TOPICS OF COURSE UNIT</b>				
<p>Determinants of human health: development of health, biological and genetic factors, physical environment, socio-economic factors and living conditions, behavioural and lifestyle factors, psychological factors, health technologies. The human environment and its effects on health. Environmental hazards to health. Essential requirements for a healthy environment. Natural and anthropogenic pollution of the environment. Health effects of psychosocial factors. Environmental epidemiological studies. Exposure, detection and evaluation, biological monitoring, dose and effect, dose and response. Planning of environmental epidemiological studies and principles of data analysis. Development of the assessment, adjustment and prevention of human health aspects of environmental health (including quality of life) determined by physical, social and psychological factors in the world and in Lithuania. Environmental impact assessment of the proposed economic activity. Public health impact assessment. Human public health risk assessment - the stage of public health risk management. Identification of the harmful factor, evaluation of exposure and dose-response, risk characterization. Soil. Key indicators of soil quality and safety. Assessment of the degree of soil contamination. Spatial planning and health. Addressing public health issues through spatial planning. Healthy urban planning and sustainable development. Urban Health Plan: Vision, Governance, Data Collection, Priorities and Implementation. The movement of healthy cities.</p>				

Electromagnetic fields and their effects on health. Sustainable development. Vision of sustainable development, mission and implementation of the state. The concept of environmental health. Health for All 2020. The Verona Initiative. Ottawa Charter. Drinking water, its safety and quality, indicators (microbiological, chemical / toxic, indicative). Wells. Reservoir protection zones. Requirements for the designation of water protection zones. Problems of drinking, recreational water in Lithuania. Risk management of exposure to substances and preparations. Ambient air. Ambient air problems in Lithuania. Ambient air quality and its impact on health. Wastewater, principles of its treatment. Waste. Waste management, waste management policy, problems in Lithuania. Medical waste. Medical waste management. Radioactive waste. Radioactive waste management. Ionizing and non-ionizing radiation: problems in Lithuania. Radon. Radon in living quarters. Noise, noise risk assessment. Noise reduction policy and public health. Implementation of noise prevention and reduction measures. Housing policy. Impact of housing conditions on health and quality of life: problems in Lithuania. Ongoing monitoring of the environment and health. Environmental health management problems in Lithuania. Ways and significance of public information and participation in health promotion. Local environmental health plans and their preparation. Transport, environment and public health. Climate change and threats to human health.

### **RECOMMENDED LITERATURE SOURCES**

1. Friis R. H. Essentials of environmental health. Third edition. Jones & Bartlett Learning, London. 2019.
2. Frumkin H. Environmental Health: From Global to Local. Third edition. Jossey-Bass a Wiley Imprint, San Francisco. 2016.
3. Transforming our world: the 2030 Agenda for Sustainable Development. United Nations. 2015.
4. WHO European Healthy Cities Network: <https://www.euro.who.int/en/health-topics/environment-and-health/urban-health/who-european-healthy-cities-network>
5. Guidelines for drinking-water quality. 4th edition, incorporating the 1st addendum. WHO Library Cataloguing in Publication Data. 2017.
6. Lash L. T, VaderWeele T. J., Haneuse S., Rothman K. J. Modern Epidemiology. Fourth Edition. Lippincott Williams & Wilkins. 2020.
7. Raulinaitis M. Poveikio aplinkai vertinimo ir atrankos dėl poveikio aplinkai vertinimo procesų aiškinamasis vadovas. Lietuvos Respublikos aplinkos ministerija. Vilnius. 2019.
8. Health 2020: the European policy for health and well-being: <https://www.euro.who.int/en/about-us/regional-director/regional-directors-emeritus/dr-zsuzsanna-jakab,-2010-2019/health-2020-the-european-policy-for-health-and-well-being>
9. Detels R., Karim A. Q., Baum F., Li Liming, Leyland A. H. Oxford Textbook of Global Public Health. 7th Edition. Oxford University Press. 2021.
10. Tulchinsky T. H. , Varavikova E. A. The new public health. Third edition. Elsevier Inc. 2015.
11. Lippmann M., Schlesinger R. B. Environmental Health Science. Second Edition. Oxford University Press. 2018.
12. Detels R. Oxford Textbook of Global Public Health. 6th Edition. Oxford University Press. 2015

### **CONSULTING LECTURERS**

1. Coordinating lecturer: Mindaugas Butikis (Assist. Prof. Dr.).
2. Rimantas Stukas (Prof. Dr. HP).
3. Raimondas Buckus (Prof. Dr.).

### **APPROVED:**

By Council of Doctoral School of Medicine and Health Sciences at Vilnius University:  
29<sup>th</sup> of September 2022

Chairperson of the Board: Prof. Janina Tutkuvienė