

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

Scientific Area/eas, Field/ds of Science	Medical and Health Sciences (M 000): Public Health (M 004)			
Faculty, Institute, Department/Clinic	Faculty of Medicine Institute of Health Sciences Department of Public Health			
Course unit title (ECTS credits, hours)	Ecology and Public Health 4 credits (120 hours)			
Study method	Lectures	Seminars	Consultations	Self-study
Number of ECTS credits	-	-	0,5	3,5
Method of the assessment (in 10 point system)	<p>Presentation and evaluation: the presentation is based on a focused topic, which is coordinated with the coordinating teachers (the PhD student has to analyse, review and present the most recent scientific publications related to the relevant topic).</p> <p>Criteria for the evaluation of the presentation (minimum score of 5):</p> <p>(a) Relevance, novelty and appropriateness of the material presented (2 points);</p> <p>(b) the overall structure and scope of the presentation, clarity of knowledge, reasoning, conciseness and specificity (2 points);</p> <p>(c) summary, presentation and justification of conclusions (1 point);</p> <p>(d) raising issues of concern, presentation of the knowledge reviewed (3 points);</p> <p>(e) organisation of visual aids, ability to participate in discussion, question management, oratorical skills (2 marks).</p>			
PURPOSE OF THE COURSE UNIT				
<p>To provide theoretical and practical knowledge of fundamental natural patterns and anthropogenic phenomena, as well as knowledge based on the latest research on ecology, its impacts, the scale of its interactions, its assessment, its drivers, its trends, its links to public health, with an emphasis on the most important human-induced problems of preserving the environment at the local, regional and global scale. To promote an interdisciplinary approach to solving problems in ecology, nature conservation and public health based on the principles of modern life sciences and their knowledge-based ecology. To address ecological problems and their determinants and potential consequences for public health.</p>				
THE MAIN TOPICS OF COURSE UNIT				
<p><u>General part.</u> Concept, object, methods, aim and objectives of ecology. Development of ecological science. Structure of ecological science, its relationship to other sciences and directions of research.</p> <p><u>Global ecological problems and their classification.</u> Ecological crises, catastrophes, smog and acid rain. Demographic ecology. Ecology and environmental protection.</p> <p><u>Human relations with ecology.</u> The human environment and its impact on health. Basic requirements for a healthy environment and health. The impact of psychosocial factors on health. Food and its impact on health. Diseases caused by environmental factors and their prevention.</p>				

Landscape and its protection. Types of landscape in Lithuania. Ozone depletion and ultraviolet radiation. Climate change and the greenhouse effect. Deforestation and decline of biological systems. Climate change in Europe. Ecological monitoring, principles, purpose and significance.

Protected areas. Reserves, reserves, national parks and natural monuments. History and perspectives of ecological ethics. Ecological education and its objectives. Ecological legislation. Implementation and monitoring of legislation. Concept of environmental protection and nature conservation in Lithuania. Ecological management system.

Systemic approach in ecological behaviour. Impact of human activities on the environment. Factors influencing the environmental behaviour of individual consumers. Strategies to promote environmentally friendly behaviour.

The relationship between home ecology and health sciences. Concept and main areas of home ecology. The impact of environmental problems of household activities on human health. Interaction between ecology and health sciences.

Interaction between the social system and the ecosystem. Population and feedback systems. Human population. Social mechanisms of population regulation. Demographic explosion and quality of life.

Ecosystem structure. Sustainable/unsustainable human-ecosystem interactions. Urbanisation and impact on human health. Human environment and its impact on health. Environmental health hazards and human health indicators.

Key requirements for a healthy environment and health. Air quality, safe water, safe housing and a stable global environment. The impact of physical factors on health. Environmental pollution, health effects of ionising and non-ionising radiation. Health effects of chemical and biological agents.

History of infectious diseases. New infections. Epidemic diseases. Metabolism of pollutants. Factors influencing the spread of diseases. Options for reducing risks from biological and chemical food contamination.

Environment and occupational health. Occupational disease prevalence and accounting. Non-infectious diseases caused by environmental factors and their prevention. Global health problems, health problems caused by climate change. The role of public health professionals.

RECOMMENDED LITERATURE SOURCES

1. Baum, F. 2016. The new public health:
<https://www.cabdirect.org/cabdirect/abstract/20173272776>
2. Butler C., D., Dixon J., Capon A. G., Health of people, places and planet reflections based on tony mcmichael's four decades of contribution to epidemiological understanding:
https://www.researchgate.net/publication/280697783_Health_of_People_Places_and_Planet_Reflections_based_on_Tony_McMichael's_four_decades_of_contribution_to_epidemiological_understanding
3. Dietz T., 2015. Prolegomenon to a structural human ecology of human well-being:
<https://online.ucpress.edu/socdev/article-abstract/1/1/123/83262/Prolegomenon-to-a-Structural-Human-Ecology-of?redirectedFrom=fulltext>
4. Dyball R., Newel B., 2015. Understanding Human Ecology: A systems approach to sustainability:
<https://www.routledge.com/Understanding-Human-Ecology-A-systems-approach-to-sustainability/Dyball-Newell/p/book/9781849713832>
5. Houston J. B., Thorson E.; Esther, Kim, Mantrala M. K., 2021. COVID-19 Communication Ecology: Visualizing Communication Resource Connections During a Public Health Emergency Using Network Analysis:
<https://journals.sagepub.com/doi/10.1177/0002764221992811>
6. Nikolaenko D., Fiedlerb B. A., 2020. Infectious ecology: A new dimension in understanding the phenomenon of infection:

https://www.researchgate.net/publication/338146183_Infectious_Ecology_A_New_Dimension_in_Understanding_the_Phenomenon_of_Infection

7. Shanahan D. F., Lin B. B., Bush R., Gaston K. J., Dean J. H., Barber E., Richard R. A., 2015. Toward Improved Public Health Outcomes From Urban Nature: (<https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2014.302324>)
8. Steiner F. R., Forman R. T.T., 2016. Human Ecology: How Nature and Culture Shape Our World:
<https://www.amazon.com/Human-Ecology-Nature-Culture-Shape/dp/1610917383>
9. York R., Rosa E. A., 2012. Choking on modernity: A human ecology of air pollution: <https://academic.oup.com/socpro/article-abstract/59/2/282/1703290?redirectedFrom=fulltext>
- Social Problems, 2012 - academic.oup.com
10. Zipf G. K., 2016 Human behavior and the principle of least effort: An introduction to human ecology:
<https://www.amazon.com/Human-Behavior-Principle-Least-Effort/dp/161427312X>

CONSULTING LECTURERS

1. Coordinating lecturer: Raimondas Buckus (Assoc. Prof. Dr.).

2. Rimantas Stukas (Prof. Dr. HP).

3. Mindaugas Butikis (Assist. Prof. Dr.).

APPROVED:

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

Chairperson of the Board: Prof. Janina Tutkuvienė