

Course title: ENVIRONMENTAL PROTECTION

ECTS credit allocation (and other scores): 2

Semester: autumn

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Engineering and technology

Language: English

Number of hours per semester: 15/15

Course coordinator/ Department and e-mail: Department of Tourism, Recreation and Ecology; dr inż. Anna Goździejewska; gozdzik@uwm.edu.pl

Type of classes: classes and lectures

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#### Substantive content

CLASSES: Environmental protection in statistical research and its financing in Poland and in the world. Stages of eco-development implementation – Rio Declaration, Agenda 21. Biodiversity in the Warmia and Mazury voivodeship. Renewable and non-renewable resources in the voivodeship. Air pollution in the Warmia and Mazury Voivodeship. The problem of acidification of the environment on the regional and national scale. Water pollution in the Warmia and Mazury Voivodeship. Water protection – activities in the catchment area and the lake basin. Types of soils and their contamination in the Warmia and Mazury Voivodeship, ways of management. Poisons and toxins in food. Environmental pollution and civilization diseases. Sustainable use of forests – forests of Warmia and Mazury. The most important environmental problem in the voivodeship (discussion).

LECTURES: Biosphere as a global environment. History of environmental protection in Poland and in the world. The idea of sustainable development – eco-development indicators: laws and principles. Natural aspects of environmental protection – the biodiversity threats. Principles of managing renewable and non-renewable resources. Atmosphere protection – sources and types of pollution, global effects. Protection of the hydrosphere – sources and types of pollutants eutrophication, the problem of water deficit in the world. Soil protection – sources and types of pollution, various forms of influence on the lithosphere. Agricultural systems and healthy food. The influence of environmental pollution on human health. Forest protection – forest threats, ways of counteracting. Projects and technical methods in environmental protection – the concept of clean technologies.

Learning purpose: To provide knowledge of the environment in the local and global scale.

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On completion of the study programme the graduate will gain:

Knowledge: Student identifies and explains the phenomena and processes occurring in the atmosphere, hydrosphere and pedosphere. Defines the relationship between global phenomena and anthropogenic pressure. Student lists and describes the environmental hazards associated with human activity and the forces of nature (acid rain, greenhouse effect, ozone hole, water eutrophication).

Skills: Student can find and present information about the environment state and threats. He assesses human functioning in the environment on a local and global scale. Student uses arguments for environmental protection.

Social Competencies: Student shows creativity in independent work and actively participates in teamwork. Demonstrates creativity in formulating in a simple and understandable way opinions and conclusions regarding environmental problems resulting from human activity.

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Basic literature: 1) Ecology of Industrial Pollution. Batty, Lesley C., Hallberg, Kevin B. 2010. 2) Urban Sprawl, Global Warming, and the Empire of Capital. Gonzalez, George A. 2009. 3) Changes in the Environment: Implications on Vegetation. Dhir, Bhupinder. 2017. 4) The World Ocean in Globalisation: Climate Change, Sustainable Fisheries, Biodiversity, Shipping, Regional Issues. Vidas, Davor, Schei, Peter Johan. 2011. 5) Farewell, King Coal: From Industrial Triumph to Climatic Disaster. Seaton, Anthony. 2018. 6) Arguing About Climate Change: Judging the Handling of Climate Risk to Future Generations by Comparison to the General Standards of Conduct in the Case of Risk to Contemporaries. Davidson, Marc David. 2008. 7) Impact of Global Warming and Climate Change on Human and Plant Health. Arya, Arun, V. S. Patel. 2016.

Supplementary literature: Environmental protection. Emil Theodore Chanlett Autor McGraw-Hill Publishing Company. 1979, 2) Archives of Environmental Protection. Journal PAN 2008.

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The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 1.28

Student's independent work: 0.72