

Course title: WATER MANAGEMENT

ECTS credit allocation (and other scores): 3.0

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: 30/15

Course coordinator/ Department and e-mail: dr hab inż. Renata Augustyniak-Tunowska, prof. UWM;
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Type of classes: classes and lectures

Substantive content

CLASSES: Calculation and interpretation of the water balance. Development of water balance of a given catchment area. Fees in the field of economy of water and sewage systems.

LECTURES: Water resources - water cycle, hydrological processes, the impact of changes of climate to hydrological processes. Water balance in terms of global, Europe and Poland. Tasks and goals of water management. Legal conditions for water management. Water needs - balance resources and needs. The concept of water footprint. New problems in water management - "water market - water market", "fair pricing -fair prices", "a human right to water", "water wars - conflicts over water". Methods of water retention in the catchment. Management water in rural and urban areas. Resource management in Poland and European Union countries. Threats, degradation and protection of water resources.

Learning purpose: Students are getting acquainted with the water resources of Poland comparing to the world and Europe, as well as with the methods of determining the water resources of the country

On completion of the study programme the graduate will gain:

Knowledge: Student has knowledge of water management and understands phenomena of hydrological processes, water circulation processes; he knows the relationships between resources and availability of water, the amount and degree of contamination. He knows different forms of water retention, basic legal acts in water resources management, and he has knowledge about the quantity and quality of water.

Skills: Student can characterize the terrestrial part of the hydrological cycle, to prepare and to interpret the water balance and assess the water needs in various sectors of the national economy.

Social Competencies: mechanisms related to water management, he acts in accordance with the scientific basis of the protection of water resources.

Basic literature: 1. Zetland D., The end of abundance, Wyd. Aguanomic Press, R. 2011

2. Zetland D., Living with water scarcity, Wyd. Aguanomic Press, R. 2014

3. Siemieniuk A., Szczykowska J., Gospodarowanie zasobami wodnymi – wybrane zagadnienia, Wyd. Politechnika Białostocka, R. 2020

4. Mikulski Z., Gospodarka wodna, Wyd. PWN, R. 1998

Supplementary literature: ---

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 47 h

Student's independent work: 37 h