
Course title: WATER SUPPLY

ECTS credit allocation (and other scores): 5.0

Semester: spring

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

Branch of science: Engineering and technology

Language: English

Number of hours per semester: 60

Course coordinator/ Department and e-mail: dr hab. inż. Urszula Filipkowska, prof. UWM

Type of classes: classes and lectures

Substantive content

CLASSES: Calculation of characteristic flows in the water supply network. Determining the demand for water based on partial and integrated indicators. Calculation of water tanks capacity. Principles of water supply network design. Determination of water partitions. Hydraulic calculations of the water supply network. Calculation of the pressure line height. Water pumping stations. Efficiency of pumps connected in series and in parallel. Working point of the pump system and water pipe.

LECTURES: Water supply system tasks and components. Water demand and water consumption. Water consumption variability. Water demand indicators. Water unevenness coefficients. Types of water intakes. Ways of drawing water from wells equipping wells for groundwater. Rules for calculating wells. Shore, sinus, river threshold shots. Water tank types and calculations. Water pumping stations. Requirements for water supply networks. Schemes and systems of water supply networks. Water supply pressure. Hydraulic calculations of open and closed networks. Materials used to build the water supply network.

Learning purpose: Presentation of water distribution systems and the rules of design and operation of water systems.

On completion of the study programme the graduate will gain:

Knowledge: Knows the methods of determining the coefficients of unevenness of water partitioning in the annual and daily cycle, characteristic flows being the basis for designing water supply networks, the rules of network design, determining the demand for water for the built-up area and hydraulic calculations of water supply pipes during characteristic system working hours.

Skills: can design the layout of the water supply network in the plan

Social Competencies: Is aware of the responsible approach to the output data used in the dimensioning of water supply networks and shows understanding of the functioning of the basic elements of the water supply system and readiness to constantly expand knowledge

Basic literature: 1) Gabryszewski T., Wodociągi, wyd. Arkady Warszawa, 1983; 2) Mielcarzewicz E., Obliczanie systemów zaopatrzenia w wodę, wyd. Arkady Warszawa, 2000; 3) Szpindor A., Zaopatrzenie w wodę i kanalizacja wsi, wyd. Arkady Warszawa, 1998

Supplementary literature:

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 2.56

Student's independent work: 2.44