UDK 196

FUNDAMENTALS OF MODERN TEACHING METHODS OF TEACHING THE SCIENCE OF SOIL MECHANICS, SOIL AND FOUNDATIONS

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Abstract: *effective methods of using modern teaching methods in the teaching of soil mechanics, soil and foundation science and its methodology. As part of reclamation systems, hydraulic structures performing various functions will be built. Their structural parameters are calculated on the basis of special engineering calculations on the basis of geological and hydrogeological conditions of the construction site, the climate of the construction site, the size of the water body at the disposal of the facility and other similar indicators. In addition to the technical, functional and economic requirements for any hydraulic structure, it must also meet the artistic and architectural requirements. Therefore, personnel majoring in "Operation of hydraulic structures and pumping stations" must have sufficient knowledge and skills in the field of soil science and foundation.*

Keywords: *Foundation, ground, ground, tension, deformation, density, porosity.*

1. Introduction.

The agricultural production of our country is mainly based on irrigated agriculture. Therefore, it is necessary to constantly improve and develop the work related to the construction, reconstruction and efficient use of reclamation facilities, including hydraulic structures and pumping stations. At the same time, it is necessary to pay special attention to the efficient use of funds spent on the construction and operation of facilities and to reduce the construction period as much as possible. Our hydraulic engineers have a rich experience in the construction and operation of hydraulic structures and pumping stations. Hydraulic structures and pumping stations are mainly responsible for water supply of irrigated lands and other sectors of the economy.

As part of reclamation systems, hydraulic structures performing various functions will be built. Their structural parameters are calculated on the basis of special engineering calculations on the basis of geological and hydrogeological conditions of the construction site, the climate of the construction site, the size of the water body at the disposal of the facility and other similar indicators. In addition to the technical, functional and economic requirements for any hydraulic structure, it must also meet the artistic and architectural requirements. Therefore, personnel majoring in "Operation of hydraulic structures and pumping stations" must have sufficient knowledge and skills in the field of soil science and foundation. [123]

Any engineering structure must be strong and durable, as well as meet the requirements for deformations. The subject "Soil Mechanics, Soil and Foundations" is engaged in the study of the rules for ensuring such requirements in different soil conditions. The main purpose of studying the subject "Soil Mechanics, Soil and Foundations" is to acquaint students with the

modern rules of solving engineering problems in the field of soil science and foundation, to form in them a sufficient level of knowledge and skills in science. The following knowledge and skills are given to students by a professor in this subject: Get acquainted with the basic information about soils, physical, physicochemical and mechanical properties of soils and methods for determining their performance. Study of stresses in the ground and methods for their detection, knowledge of the stages of stress-strain state in the ground. Get acquainted with the basic rules of calculation of soils and foundations for boundary conditions, types of foundations, their areas of application and procedures for designing soils and foundations. Must have a thorough knowledge of the methods of artificial reinforcement of soils and the rules of laying foundations in special conditions. In order for students to master the above-mentioned knowledge and skills, professors and teachers are required to organize high-level lessons. Classes on soil mechanics, soil and foundations are held in the form of lectures, practical, laboratory. Also course work on this subject course projects are organized by students under the guidance of a professor. Students turn the knowledge and skills gained from lectures into skills in practical and laboratory classes. It is recommended to take practical and laboratory training in close connection with direct production.[47]

Lectures should be organized at a high level with the effective use of modern educational technologies and the latest achievements of technology. The idea of technologicalization of the education system first appeared in the early twentieth century in Western Europe and the United States at a time when there was a social movement to reform the education system, increase the effectiveness of education, create certain conditions for socialization. . This idea was based on the introduction of the concept of "pedagogical technique" ("educational technique") in the educational process in the 30s. In the special literature created during this period, the concept of "pedagogical (educational) technique (s)" was interpreted as "a set of methods and tools to facilitate the accurate and effective organization of training" and the introduction of teaching and laboratory equipment in the educational process. situations such as explaining the content using visual aids were assessed as leading factors in helping to increase the effectiveness of education. The following issues will be addressed in the teaching of soil mechanics, soil and foundations on the basis of modern education and innovative technologies The transition to teaching on the basis of modern teaching methods has the following objectives: ensuring continuity of training; individualization of teaching;

creation of sufficient conditions for independent study of educational material; acceleration of training;

Achieving effective mastery of science. Teaching based on modern teaching methods requires the reading of problematic and instructive lectures that provide generalized information on the main issues of science. Lectures should focus on developing students 'creative abilities. The module should be structured with practical and laboratory sessions, which should be supplemented with new material that explores the content of the lectures. The following teaching methods can be used to increase the effectiveness of science teaching:

problem communication; heuristic conversations; educational games;[89]

-design and reference texts, etc. From the content of the system of modern teaching methods, the following advantages were identified: - Ensuring continuity of teaching between

subjects and intramural modules; 24 - to establish methodologically based compatibility of all types of educational process within and between each module; -flexibility of the modular structure of science; -Regular and effective monitoring of student learning (after each module); - immediate stratification of students according to their abilities (after the initial modules, the teacher may recommend individual students to individualize the subject); - Acceleration of training as a result of "squeezing" information, effective use of classroom hours and optimization of the composition of teaching time, lectures, practical classes, individual and independent work. As a result, the student will have sufficient knowledge and skills. Teaching based on modern teaching methods should be developed in accordance with the principles of activity, systematic quantization, interest, modularity, problem-solving, cognitive visualization, error-based. In conclusion, it should be noted that due to the nature of the science, as a result of the correct application of the above educational technologies, it is possible to provide qualified personnel.

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