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Modern Information Technologies in Teaching the Discipline Engineering Geodesy

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Abstract: At the present stage of development of the country is carried out modernization of higher education, in which teachers are actively being sought new approaches, tools and methods. The purpose of educational activities aimed at improving the quality of education through the adoption and integration of modern educational technologies. This article explores ways of forming knowledge and skills of future engineers in the study course "Engineering Surveys" with the use of information technology.

Keywords: modernization of higher education, quality of education, information technology, engineering, surveying, technical means of communication.

The current stage of development of society poses a number of fundamentally new problems for the Uzbek education system, among which the need to improve the quality and accessibility of education, increase academic mobility, integration into the world scientific and educational space, create economically optimal educational systems, increase the level of university corporateness and strengthening links between different levels of education.

One of the effective ways to solve these problems is the informatization of education. The improvement of technical means of communication has led to significant progress in information exchange. The emergence of new information technologies associated with the development of computer facilities and telecommunications networks made it possible to create a qualitatively new information and educational environment as the basis for the development and improvement of the education system.

At the present stage of the country's development, higher education is being modernized, within which teachers are actively searching for new approaches, means and methods of teaching. The purpose of pedagogical activity is focused on improving the quality of education through the introduction and integration of modern educational technologies, while information technology is given the leading place.

Geodesy in general and its section "Engineering geodesy" are an integral and integral part of the profession "civil engineer". The quality of teaching this discipline directly determines the level of training of a specialist, in contrast to general education subjects. It is the assignment of "Engineering Geodesy" to general education subjects (in "non-geodesic" universities, in particular) that is one of the main problems of its full-fledged study. As a result, there is a constant decrease in the number of hours devoted to lectures, laboratory work and practical exercises.

The quality of teaching the discipline in this case depends on a balanced curriculum, the availability of educational and methodological literature, the technical

equipment of the learning process with modern geodetic instruments, and the qualifications of teaching staff.

To achieve the quality of teaching "Engineering Geodesy", the following tasks are defined:

- to consider the basic principles and methodological techniques for constructing computerized methods of teaching discipline;
- adapt the use of information computer technologies to the conditions of the educational process;
- create conditions for the formation of key competencies of students with an emphasis on information.

To implement a new approach to teaching using information technology, it is necessary to know the possibilities provided by the computer to improve the educational process at each stage of the lesson.

The quality of training of civil engineers in the field of knowledge of geodesy in production is assessed by the ability to handle geodetic instruments, carry out verifications and adjustments, as well as perform measurements related to layout work and control of the geometric parameters of the structure. These skills are acquired mainly during practical classes on the basis of knowledge gained as a result of lectures and independent work. Therefore, at the stage of preparation for the lesson, the computer provides the following opportunities: to create computer models of lectures, topics, courses as a whole; it is most expedient to arrange the material; provide the main material with additional information. At the stage of conducting classes, the computer allows you to: save time; colorfully decorate the material; optimize the process of learning; individualize learning; focus on the most important problem of the lesson; return to familiar material at any time; to use the learning material independently by the students.

An important component of teaching the discipline "Engineering Geodesy" is visibility. One teacher is physically unable to teach a study group of 25-30 people how to work with geodetic instruments, where everyone needs to explain the measurement technique, the design of the instruments, show how to handle them, demonstrate measurement methods, etc. Showing slides, clips, videos and presentations using computer technology can help here.

The use of special software makes it possible to process geodetic data on a computer and completely switch to the technology of "paperless" topographic and geodetic production.

Conducting testing using the Internet gives an objective assessment of knowledge in the discipline being studied.

Thus, computerization in teaching creates a special information environment that stimulates interest in the discipline being taught. This facilitates the understanding and solution of many problems, contributes to the disclosure of inherent potentials and abilities for cognition, creative initiative, personal development of each student.

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