



## ACTIVE METHODS OF TEACHING ANALYTICAL GEOMETRY IN HIGHER EDUCATION INSTITUTIONS

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### **Abstract**

Information technology in the teaching of analytical geometry is a set of educational programs in the Departments of analytical geometry, presentations on topics that are used in lectures and practical classes, intermediate and final control tests on modules of the educational discipline. Information technology makes it possible to more effectively solve the main tasks of studying science.

**Keywords:** *the process of learning, cognitive activity, mathematical culture, presentations, computer-based training program.*

Currently, the construction of the process of teaching students according to the method of information transfer from the teacher to the students is carried out according to the old scheme: lecture - seminar. Experience shows that this is not effective enough. The teacher requires not only competence in the field of science, but also the use of methods of activating the students' knowledge in the classroom and outside the classroom. Involvement of students in the learning process is required. It is not interesting to hand over ready-made information to the student, because in this case the position of the listener will lead to his passivity during the training process.



The program and content of each academic discipline determines the state educational standard of higher education, where the requirements for the mandatory minimum level of the program content are formulated. In studying any discipline, the student's level of readiness for practical activities and his ability to apply the knowledge gained at a higher educational institution are determined in accordance with standard requirements.

The final stage of the educational process in any discipline is the control of students' knowledge in accordance with the requirements of the state standard.

Analytical geometry is the most convenient test for the main sections of the curriculum, tasks in the tests should be calculated with differentiation.

We believe that an important issue in the teaching of specific subjects is the standardization of education aimed at achieving results:

- skills of working with information technologies;
- oral and written communication skills;
- the need for continuous education, improving knowledge;
- ability to work in groups, full use of knowledge;
- the ability to make independent decisions and take responsibility for them;
- developed creative thinking and cultural acceptance, initiative.

Today, computer educational programs are widely used in the educational process. Educational programs allow solving the following methodological problems in the educational process:

- differentiation of the educational process;
- monitoring and self-monitoring of the process of teaching students;
- exemption of students from regular calculation work;
- analysis of events or the studied process;
- decision-making according to the situation.

Informing society, using electronic systems, and developing the latest technical tools require improvement of the methodology of teaching students in higher educational institutions, especially in the field of mathematics. The use of information systems improves the perception of science,



forms the mathematical culture of students, requires the ability of teachers to use technical tools and improve the teaching-material base for each subject.

Information technologies in the teaching of analytical geometry are educational programs for analytical geometry departments, presentations on topics used in lectures and practical training, intermediate and final control tests for modules of the educational discipline.

Information technologies allow to solve the main tasks of learning science more effectively:

- storing and using large amounts of information in electronic media;
- simplified access to information and finding other information;
- data transmission over unlimited distances;
- repetition of educational materials, individual parts of the subject of the lesson;
- analysis of models of learning objects;
- effective search for information in accordance with the purpose of research.

Now the student has at his disposal electronic textbooks, electronic lectures, reference books, task sets, tests on topics and modules, all teaching-methodical complexes, presentations on department topics.

Electronic textbooks contain methodological and informational references for each subject and allow them to be used for independent study of materials and control of knowledge. An e-textbook should be accessible, highly informative and well designed. What is the advantage of e-textbook over conventional? The ability to quickly learn and access the text of the textbook allows you to save study time. Various methods of describing the studied phenomenon provide clarity in the study of the textbook topic. Modeling of studied processes and events, for example, graphical representation, event analysis. Electronic textbooks have a self-test knowledge system that helps the student to think about what to pay attention to while learning the subject.

In order to solve such problems in the education of students, the teacher of a modern higher education institution should be sufficiently qualified, have methodological skills, and in the process of training, form graduates who have the necessary knowledge in their profession. should apply the acquired knowledge in practice.

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