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PROBLEMS OF MODELING ON THE SUBJECT "DRAWING GEOMETRY AND ENGINEERING GRAPHICS"

Ziyovuddin Safarovich Khojamov
Samarkand State Institute of Architecture and Construction

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Abstract:

This scientific article discusses the problems of modernization of curricula for teaching the subject "Descriptive Geometry and Engineering Graphics". There are opinions and comments on the algorithms created for the curricula of specialties on the implementation of the program.

Keywords: Modernization, technology, resource, complex, algorithm, modeling, animation, multimedia, AutoCAD, ArchiCAD, 3D MAX, geometric constructions, interer, construction, graphics, constructor, innovation.

The process of technical and technological modernization in our country depends on the technical literacy of personnel. This article presents algorithms and methods for solving the problem of adapting curricula to modern educational standards by reviewing the theoretical and practical foundations of the subject "Descriptive Geometry and Engineering Graphics" in the teaching of students majoring in construction and vocational education.

The globalization of information exchange, as well as the rapid growth in the number and quality of scientific innovations in science, technology and industry, in itself, puts on the agenda to provide students with rapid and detailed information about them. Positive satisfaction of this demand is achieved, first of all, in the educational process, which is a convenient, acceptable form of acquisition of scientific, theoretical and practical knowledge.

Students have a strong graphic literacy, which contributes to the development of their thinking skills and spatial imagination, the development of creative abilities, the formation of scientific and technical creativity and ingenuity.

Teaching the subject of "Descriptive Geometry and Engineering Graphics", in-depth knowledge of this subject plays an important role in preparing the younger generation for the more advanced age of technology. It is impossible to imagine life in the present and in the future, in general, in every branch of the national economy without technology.

Therefore, the first President of the Republic of Uzbekistan IA Karimov pays special attention to the formation of a structure to protect and strengthen the economic and political independence of our country and to facilitate this. To do this, it is necessary to completely and radically reform the national economy, "he said.

It is known that the construction industry is multidisciplinary and is branched by construction specialties. Theoretical foundations of these construction specialties are taught in the subject "Descriptive Geometry and Engineering Graphics", which is the basis for the training of designers and constructors. Curricula for these construction specialties are created on the basis of the following algorithms:

- Theoretical and practical training that builders should know about geometric constructions;
- projection methods that help to develop and improve spatial imagination;
- Conditions used in construction projects;
- Rules for the design, implementation and operation of construction projects;
- Rules for drawing up and reading construction drawings;
- Rules of placement of the equipment used in interiors of buildings

It goes without saying that all this drawing and design work is carried out in specially equipped rooms and laboratories equipped with equipment directly related to drawing.

In view of the above, the fate of humanity in the emerging and globalizing modern information society depends on the correct organization of computer training aimed at the exchange of information, the learning process and the mastery of this tool by all people involved in production. Algorithms for step-by-step mastering of the subject through a set of exercises for mastering the subject were created through the textbooks teaching the subject "Descriptive Geometry and Engineering Graphics", which form the basis of the above topics. When creating two- and three-dimensional drawings (ALT) with the help of "Computer Graphics" programs that meet international educational standards, you can use AutoCAD, ArchiCAD and 3DMAX to create all the drawings needed for the construction of buildings and structures, as well as design estimates.

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The following model is used using computer graphics to help the student know the laws of interconnection of building structures and objects on a computer.

This diagram visualizes event process models by entering engineering parameters.

On the basis of modeling it is possible to prepare practical graphic animation, design and construction documents.

All three-dimensional objects are made up of surfaces, and whether they are hollow or full does not affect their geometry.

In the educational process, it is necessary for the teacher and students to interact in a lively language dialogue, exchange of ideas, sincere respect and close cooperation in achieving the main goal.

Teaching students using modern innovative technologies in the formation of graphic literacy in the lessons of graphic geometry and engineering graphics leads to an increase in students' mastery of the subject. To do this, pay special attention to:

- Carrying out the teaching process in a combination of computer and modern pedagogical technologies;

- Development of software and pedagogical tools for drawing;

-use of animation and multimedia (movement of shapes in the direction of drawing, application of sound effects);

-use of three-dimensional graphics programs;

-correctly ensure the proportionality of manual and computer graphics. In creating the curriculum, individual assignment options for independent assignments on the subject of "Descriptive Geometry and Engineering Graphics" have been developed to help students improve their ability to create, execute, and read projects by enhancing their thinking and imagination skills.

The curriculum is intended to serve as a methodological guide for teachers.

For this reason, the lessons should be organized in such a way that under their influence, students are expected to form and form different views, scientific thinking and beliefs in this subject.

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