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PROBLEMS OF CREATING TWO AND THREE-DIMENSIONAL DRAWINGS IN THE PROGRAMS OF THE DISCIPLINE “COMPUTER GRAPHICS” INTENDED FOR TEACHING THE DISCIPLINE “DRAWING GEOMETRY AND ENGINEERING GRAPHICS” IN THE DIRECTION OF CONSTRUCTION AND VOCATIONAL EDUCATION

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Annotation

The priority directions of the national program are the creation of new various academic lyceums, vocational schools, educational institutions in order to train a new generation of highly qualified specialists who meet the requirements of the modern economy.

Keywords: Education, technology, engineer, modernization, constructor, interface, exterior, modeling, Auto CAD, Archi CAD.

The Decree of the President of the Republic of Uzbekistan” on the fundamental reform of the system of education and training of personnel, the upbringing of a harmonious generation “became one of the priority areas of state policy for the implementation of the law “On Education” and the “national training program.” The documents of this program take into account that personnel play a decisive role role in ensuring the economic prosperity of our country.

Proceeding from this point of view, in our country they began to train teachers according to various approaches, guided by the provisions of the law on the reform of the education system. Including the professional education of specialists, the training of engineers-teachers is an important link in the implementation of the task.

The level of development of society, the transformation of our time into the information age, structural changes in technology and construction indicate that in order to prepare young people into mature, competently assessing the situation, able to make correct and rational decisions in any case, it is not enough to conduct classes based only on traditional methods. And this requires a wide use of the world experience of the education system.

Dear President Sh.M. Mirziyoev that “the ultimate goal of all reforms is to create decent living conditions for people”, serve as the main ideological program for the development of the main sectors of the economy of our independent republic - agriculture, construction, road construction and the production of all types of motor transport.

After our republic gained independence, economic reforms began to be consistently introduced into life. Because the industry for the production of road transport has been established. As a result, the construction of various types of buildings and structures was accelerated, as well as the construction of railways and roads. Automotive and household industries have been created in our republic, our country has become one of the countries in the world with a developed automotive and household industry.

Personally, the president of the republic and experts in this field are lively in this matter. Proof of this can serve as books and scientific articles, which published government regulations issued to this day.

The process of technical and technological modernization carried out in our country depends on the technical literacy of the personnel. Students studying in the direction of construction and vocational education are presented with algorithms and methods for solving problems to bring curricula in line with modern educational standards by rethinking the theoretical and practical areas of the discipline “Descriptive geometry and engineering graphics.

As you know, the construction of buildings and structures, road construction is multidisciplinary and branches out according to the specialties of a civil engineer. The theoretical foundations of these specialties, directions and basics of training design personnel are taught in the discipline "Descriptive geometry and engineering graphics". Curricula for these specialties are compiled on the basis of the following algorithms:

- Exercises that students should know from geometric shapes:
- Projection techniques that help develop and improve spatial imagination skills:
- Conditions and simplifications used in construction drawings and projects:
- Rules for the preparation, execution and reading of construction projects:
- Rules for compiling and reading construction communications:

The basis of the topics presented in this article is set out in stages in a set of exercises in the discipline “Descriptive Geometry and Engineering Graphics” for civil engineers.

Building methods and algorithms for the modernization of the educational process based on graphic information in the direction of vocational education is no exception.

The President of the Republic of Uzbekistan Sh.M. Mirziyoev of the “national training program” on the basis of Mirziyoev’s instructions that “without changing the system of education and upbringing it is impossible to radically change the consciousness of people and their way of life”, has become one of the priorities of state policy.

In order for the level of development of society to become the graphic information era of our time, it is necessary to modernize the system of vocational education for the training of personnel performing design work in engineering and construction based on models of the intensive education system.

When modernizing the education system in our country, we recommend the following styles and algorithms for implementation models:

- Inclusion in the curriculum in the system direction of the discipline "graphic technologies" of the theoretical foundations of design and engineering documentation

- The Vocational School of Civil Engineering is improving its curriculum in the following order:

- Familiarization of students with the conditions and rules of simplification used in the preparation of structures and projects in order to improve the ability to master technical and state standards:

- Improving the methods of drafting, executing and reading construction projects:

- Teaching the rules for placing equipment and architectural decorations used in the interiors and exteriors of buildings and structures.

Mastering the subject through textbooks that teach the subject "Descriptive geometry and engineering graphics", which underlies these topics, algorithms for the phased mastering of the subject with the help of exercises were created. With the help of “computer graphics” programs that meet world educational standards, when creating 2- and 3-dimensional drawings of the imagination (Alt), using Auto Cad, Archi CAD and 3D Max programs, you can create all the drawings necessary for the construction of a building and roads, as well as to carry out design and estimate documentation.

In order for students to recognize the design of connecting building structures to each other on a computer, the following model is used using computer graphics.

This figure visualizes the process models of the phenomenon by entering engineering parameters.

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

All 3D objects are made up of surfaces, either hollow or solid, without affecting their geometry.

Usually, a surface is understood as a geometric surface consisting of smooth and smooth curvature, but in science it has been proven that a plane is also a surface, only the curvature of these surfaces is zero. In particular, a plane is a flat surface, and the plural is a side surface, and a faceted surface is also called a faceted surface.

When creating a computer-aided design system based on modeling using Auto Cad, Archi CAD and 3D Max, devices can be supported and attached to each other during construction, animate nodes, and the calculation of all costs incurred by the designed building for the structure can be performed in tables in the form of a specification.

When creating curricula, individual options are created for students to complete independent tasks in the subject of engineering and computer graphics, which contribute to the development of thinking and imagination skills.

A fundamental reform of the education system, based on the requirements of the development of society, requires developed countries to study the foundations of the education system and create a new National educational process. It is required to introduce and prepare in vocational schools a system of basics of descriptive geometry and engineering computer graphics, which contributes to the study of academic disciplines, project design documentation, the creation of models for the training of qualified personnel through the graphic technology system of vocational schools in the direction of engineering and construction, and the conduct of scientific and pedagogical work.

The created curriculum will serve as an educational and methodological direction for teachers and teachers teaching in higher educational institutions, academic lyceums and vocational schools.

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