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THE MODERNIZATION OF THE RATE OF DESCRIPTIVE GEOMETRY

Descriptive geometry as a science, and after that - as an academic discipline, emerged in the XVIII century. For a long time, descriptive geometry was a theoretical basis for the construction of engineering graphics and is considered to start technical discipline, playing the key role of in the theoretical basis of technical knowledge.

Currently, there is a situation when the descriptive geometry stopped being a "handmaiden of engineering graphics". One of the objective causes contributing to the establishment and consolidation of such situation has been the rapid development of information technology and computer-aided design. Planners, designers, inventors and architects have the opportunity to implement their ideas directly into a spatial model of the virtual space. That is, drawing a flat image space object ceased to be paramount.

Descriptive geometry can now pretty much "to merge" with analytical geometry, as Gaspard Monge said in the XVIII century in his textbook "Descriptive geometry" (Moscow: USSR Academy of Sciences, 1947. S. 23), and come to series of mathematical disciplines, thereby obtaining a new stage in its development.

The emergence of information technology may not cause belittling the means and methods of descriptive geometry. In our view, it has been and remains to be a science, having shown no conflict with their tenets, having found no inadequate reflection of its surrounding reality, and information technology are just a new instrument capable in all respects (speed, time, quantity and quality) to improve level of achievement by students of geometrical graphic disciplines. In addition, descriptive geometry has always been and remains a discipline to develop this ability of the human brain, such as spatial thinking. This ability is particularly important in the process of design, invention and the creation of something new. Information technology only supplements the drawing of three-dimensional model of the virtual space, rather than replace it. Therefore, the need to implement a mental transition from the image of three-dimensional model to two-dimensional drawings and back preserved, and thus remains the need for descriptive geometry in the luggage of knowledge of modern engineering.

Today, thanks to computing, the problem of mathematical modeling of objects of different nature and purpose, technology, technological processes, economic dependency, natural phenomena, etc. are highly relevant, which by its nature rye multiparameter. Construction of multivariate processes

is possible with wide use of methods of visual presentation of initial data and results. However, the graphical solution of problems in a multidimensional space is neither practicable nor feasible. Therefore, the study of methods of solving the basic problems of descriptive geometry, three-dimensional space in synthetic and analytical presentation becomes current, followed by a generalization to the multidimensional space.

The main directions of modernization of the teaching of descriptive geometry in high schools, in our view, should be:

1. Bringing the course structure and contents of descriptive geometry in accordance with a formalized unit study graphic models of spaces of different dimensions, to determine their structural characteristics, the analysis of raw data of the task and determine the number of their decisions. This objective will determine the place of descriptive geometry as a mathematical discipline that ensure not only the course of drawing and engineering drawing, but also a number of math-ray, general engineering and specialized disciplines;

2. Parallel study of graphical and analytical algorithms for solving geometric problems of multidimensional spaces to create a perspective of the integrated course in descriptive, enumerative, differential and analytic geometry as a basis common geometric training specialists with higher technical education.