

DEVELOPMENT OF PROFESSIONAL GRAPHIC COMPETENCE OF STUDENTS BY DRAWING A MODEL OF AN UZBEK SKULLCAP IN THE AUTOCAD PROGRAM

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Abstract. This article provides practical information on drawing a model of an Uzbek skullcap in the AutoCAD graphic program in engineering and computer graphics lessons and the development of professional graphic competence of students.

Keywords: AutoCAD, computer graphics, professional graphic competence, skullcap model.

The aim of improving the professional graphic competence of students of higher educational institutions is to form a stable interest in science, turning them into mature specialists by achieving a broad and deep mastery of the basics of science.

Engineering and computer graphics are sciences that form and develop the qualities of creativity among students.

After all, this science develops students' spatial thinking, creativity, design and construction skills, and professional graphic competence. After all, this science develops students' spatial thinking, creativity, design and construction skills, and professional graphic competence.

The aim of developing students' professional graphic competence in higher education institutions is to significantly change the content and structure of students' graphic education. This goal is aimed at implementing the social order of society, training personnel who meet the requirements for today's graduates. The problem of intensive development of urban planning, architecture, industry and computer technologies in the visual arts, as well as the creation of an integrated system for the development of professional graphic competence of students, is of particular relevance.

Today, higher education institutions require their students to acquire in-depth knowledge not only in their field, but also in modern information technologies. Therefore, it is the responsibility of each teacher to teach students how to perform on a computer using modern graphics programs.

Within the framework of CAD programs, there are such programs that are considered specifically designed for the field of higher education. These are AutoCAD, CorelDRAW, 3D MAX and ArchiCAD, among others. The correct and

effective use of the AutoCAD 2009 graphics software in the lessons of engineering and computer graphics from these programs ensures the relationship between the educational goal and the result.

Explaining the essence of the topic using AutoCAD programs in engineering and computer graphics lessons has the following advantages:

- the possibility of simultaneous work with several drawings using graphics programs;

- the possibility of simultaneous use of drawings as illustrative material;

- the possibility of simultaneous display of evidence of two-dimensional drawings on three-dimensional drawings;

- a better understanding of drawings using 3D models, which students must master in the subject;

- when students have questions, the teacher can easily go back to the previous drawing step by step;

- education of the student's interest in the lesson, the development of spatial thinking.

Based on modern requirements, students of higher educational institutions should have prior knowledge of the modern AutoCAD program and be able to design drawing elements using them.

With the help of the AutoCAD 2009 program, the Uzbek skullcap model (Fig. 1) is gradually and consistently executed:

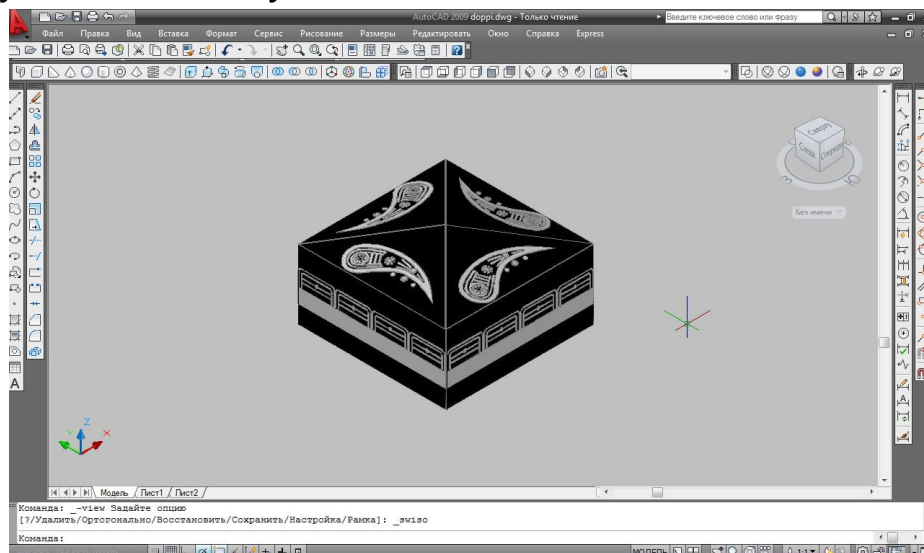
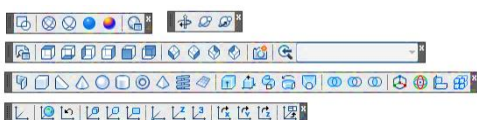
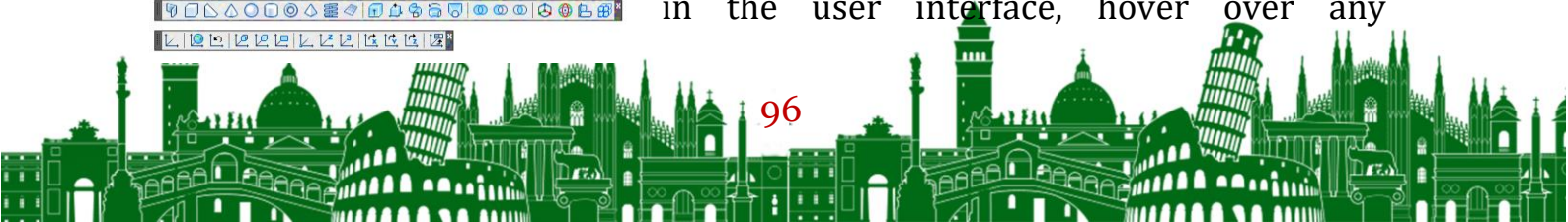


Fig. 1



1. If the 3D command prompt is not entered in the user interface, hover over any



command and right-click. The list opens. The «Visual Style», «View», «Modeling», «Orbit», and «UCS» panels are selected from this list.

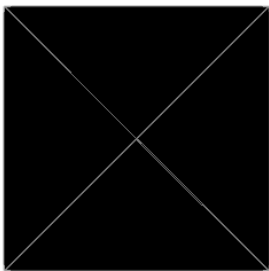


2. The «Top» command is downloaded from the «View» panel.

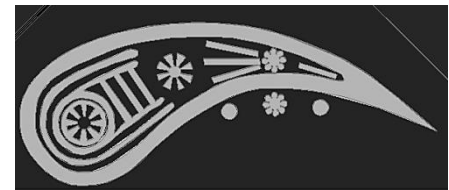
3. By downloading the «Line» command on the «Drawing» panel, a triangle with a base of 150 mm and a height of 75 mm is constructed.

4. By uploading the «Region» command to the «Drawing» panel, the triangle is restored to its complete state.

5. We change the thickness of the triangle by 1 mm using the «Extrude» command on the «Modeling» panel. It rises 17 mm from the top of the triangle.



6. By uploading the «Array» command to the «Modify» panel, the «Polar Array» is multiplied by 4 elements, taking the vertex of the triangle as the center.



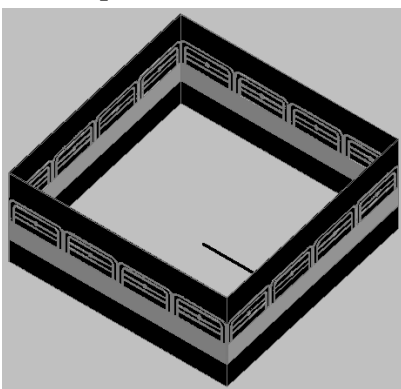
7. The white pepper head pattern at the top of the skullcap is drawn using the «Spline» command on the «Drawing» panel.



8. The edges of the skullcap have a rectangular shape, and to make it, you need to switch from the «View» panel to the «Front» command.

9. By uploading the «Rectangle» command to the «Drawing» panel, a rectangle measuring 150 x 70 mm is created.

10. When loading the «Region» command on the «Drawing» panel, the rectangle will be restored to its complete state, and its thickness will be changed by 1 mm. The patterns on the edge of the skullcap are drawn using the «Spline» command on the «Drawing» panel.



11. Having determined the middle of the edge of the skullcap, a 75 mm long line is drawn from this point.

12. After loading the «Array» command, the «Polar Array» is multiplied by 4 elements, taking the second point of the 75 mm long line as the center.

13. The upper and lower parts of the skullcap are joined together using the «Move» command on the

«Modify» panel and attached using the «Union» command on the «Modeling» panel.

14. The connection with a radius of 0.5 is performed using the «Fillet» command on the «Modify» panel between the attached parts of the skullcap.

As a result of using the AutoCAD graphics program, lessons become interesting, interactive and effective. This speeds up the learning process of graphical tools for students. By acquiring practical skills, students will be able to apply new innovative approaches not only in the educational process, but also in the future in the field of design and engineering. The quality of training of technical specialists is improving. It helps students to think independently, develop creative approaches and make independent decisions when solving complex technical problems.

Thus, through the organization of the educational process with the help of the Autocad graphic program, the development of students' spatial imagination, creative abilities, design skills and professional graphic competence is achieved.

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