



Many Sciences are Studied and Explained with the Help of Drawings

Mamurov Islom¹, Jabbarov Anvar Egamovich², Barotov Ashurali Ixtiyor ugli³

^{1, 2, 3} Tashkent State transport University

Abstract: *Drawing will introduce you to different types of graphic images, the construction of objects on a plane with drawing tools in accordance with accepted state standards (GOST), the possibilities of performing drawings using modern computer programs. This will help you master the ability to perform and read graphic images, increase the level of graphic culture.*

Keywords: *Drawing, graphics, images, planes, drawing tools, standards, computer programs.*

Drawing - examples with the solution of tasks and the execution of drawings

Hello, the page contains a course of lectures on all topics of the subject "Drawing", the purpose of drawing is to form the skills of reading drawings and performing graphic images. Many sciences are studied and explained with the help of drawings, because the drawing provides visibility of the types of any products or objects.

Drawing will introduce you to different types of graphic images, the construction of objects on a plane with drawing tools in accordance with accepted state standards (GOST), the possibilities of performing drawings using modern computer programs. This will help you master the ability to perform and read graphic images, increase the level of graphic culture.

The course of lectures on drawing is divided into three sections: "Geometric drawing", "Projection drawing", "Machine—building drawing" - and contains theoretical and practical parts with examples of problem solving and the execution of drawings and assignments.

Types of graphic images

- You will learn: about graphic language; types of graphic images and their role in transmitting information about the subject world; about graphic images intended for transmitting technical and technological information about products.
- You will learn: to recognize the types of graphic images.

Types of graphic images

Images accompanied man at all stages of his historical development. Even in ancient times, people learned to depict various animals, household items, labor, hunting. A striking example of such images are rock paintings of hunting scenes.

The need for people to transfer information to each other led to the emergence of a graphic language. With its help, it became possible to transmit and store information by pictorial and symbolic means — drawings, symbols, pictograms, numbers, letters, etc.

Drawings and pictograms as a means of communication between people appeared long before the creation of writing. Pictogram is one of the first types of writing in the form of signs schematically

displaying the most important recognizable features of an object, object or phenomenon. It is in drawings and pictograms that the graphic language originates, originates and forms.

Graphic language is now the language of international business communication, because its pictorial and sign system consists of graphic images. In modern life, a person is faced with a variety of graphic images: drawings, drawings, diagrams, plans, maps, graphs, logos, infographics, etc. They are used in various spheres of his life.

With the help of drawings or photographs, you can depict all the objects around us, cars, buildings and structures as we usually see them. In drawing, graphic images are intended to convey geometric, technical and technological information about any object or product. These types of images include technical drawings, sketches, drawings, assembly drawings, scans, architectural and construction and topographic drawings, diagrams, etc.

Let's consider the main types of images. The spatial forms of objects on paper can be depicted in the form of a technical drawing, sketch or drawing. Technical drawing is used in cases when it is necessary to quickly explain the shape of the subject under consideration, to show it clearly.

A technical drawing is a visual representation of an object made by hand, by eye, in compliance with its constructive shape and proportions (Fig. 3).

Sketches are intended for temporary or one—time use. According to the sketches, products can be made in pilot production, during repair.

Sketch — a drawing made, as a rule, by hand (without the use of drawing tools), with the storage of the proportions of the elements of the detail, as well as in accordance with all the rules and conventions established by the standards

Sketches and technical drawings can be used to judge the geometric shape of the part. Such an image is visual, but it cannot give a complete picture of the internal shape and true dimensions of the object. Therefore, in the production of products, another, more accurate method of image is used — a drawing. Drawings are the main graphic documents for the manufacture of various products in production.

A drawing is one of the types of design documents containing an image of the product, defining its design, the interaction of its components and other data necessary for the manufacture, control, installation, operation and repair of the product.

Literature

1. Mamurova, F. I. (2022, December). IMPROVING THE PROFESSIONAL COMPETENCE OF FUTURE ENGINEERS AND BUILDERS. In *INTERNATIONAL SCIENTIFIC CONFERENCE" INNOVATIVE TRENDS IN SCIENCE, PRACTICE AND EDUCATION"* (Vol. 1, No. 4, pp. 97-101).
2. Mamurova, F. I. (2021). PROBLEMS OF THEORETICAL STUDY OF PROFESSIONAL COMPETENCE OF CONSTRUCTION ENGINEERS. *Таълим ва инновацион тадқиқотлар*, (4), 104-108.
3. Mamurova, F. I., & Alimov, F. H. (2022). Surface Formation and its Assignment on the Monge Plot. *Web of Scholars: Multidimensional Research Journal*, 1(8), 28-31.
4. Odilbekovich, S. K., & Islomovna, M. F. (2023). Technology of Work on the Replacement of Contaminated Ballast below the Sole of Sleepers. *New Scientific Trends and Challenges*, 1, 21-24.
5. Odilbekovich, S. K., & Islomovna, M. F. (2023, January). Facilities and Devices of the Yale Farm. In *Interdisciplinary Conference of Young Scholars in Social Sciences* (pp. 21-23).
6. Самандаров, X. O. (2023). Образование Выплесков В Пути. *Miasto Przyszłości*, 31, 144-147.

7. MAMUROVA, FERUZA ISLOMOVNA. "FACTORS OF FORMATION OF PROFESSIONAL COMPETENCE IN THE CONTEXT OF INFORMATION EDUCATION." *THEORETICAL & APPLIED SCIENCE Учредители: Теоретическая и прикладная наука* 9 (2021): 538-541.
8. Mamurova, F., & Yuldashev, J. (2020). METHODS OF FORMING STUDENTS'INTELLECTUAL CAPACITY. *Экономика и социум*, (4), 66-68.
9. Islomovna, M. F., Islom, M., & Absolomovich, K. X. (2023). Projections of a Straight Line, the Actual Size of the Segment and the Angles of its Inclination to the Planes of Projections. *Miasto Przyszłości*, 31, 140-143.
10. Mamurova, F. I. (2022, December). IMPROVING THE PROFESSIONAL COMPETENCE OF FUTURE ENGINEERS AND BUILDERS. In *INTERNATIONAL SCIENTIFIC CONFERENCE " INNOVATIVE TRENDS IN SCIENCE, PRACTICE AND EDUCATION"* (Vol. 1, No. 4, pp. 97-101).
11. Islomovna, M. F. (2022). Success in Mastering the Subjects of Future Professional Competence. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, 2(5), 224-226.
12. МАМУРОВА, Ф. КОМПЕТЕНТЛИ ЁНДАШУВ ТАЪЛИМ ОЛУВЧИНИНГ КАСБИЙ СИФАТЛАРИНИ ШАКЛЛАНТИРИШ. *PEDAGOGIK MAHORAT*, 152.
13. Shaumarov, S., Kandakhorov, S., & Mamurova, F. (2022, June). Optimization of the effect of absolute humidity on the thermal properties of non-autoclaved aerated concrete based on industrial waste. In *AIP Conference Proceedings* (Vol. 2432, No. 1, p. 030086). AIP Publishing LLC.
14. Pirnazarov, G. F., Mamurova, F. I., & Mamurova, D. I. (2022). Calculation of Flat Ram by the Method of Displacement. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, 2(4), 35-39.
15. Kadirova, E. (2021, March). USING OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN INFORMATICS LESSONS. In *E-Conference Globe* (pp. 28-33).
16. Mamurova, F. I., Khodzhaeva, N. S., & Kadirova, E. V. (2023). Pedagogy of Technology and its University. *Innovative Science in Modern Research*, 22-24.
17. Mamurova, F. I., Khadjaeva, N. S., & Kadirova, E. V. (2023). ROLE AND APPLICATION OF COMPUTER GRAPHICS. *Innovative Society: Problems, Analysis and Development Prospects*, 1-3.
18. Mamurova, F. I. (2021). The Concept of Education in the Training of Future Engineers. *International Journal on Orange Technologies*, 3(3), 140-142.
19. Islomovna, M. F. (2023). Methods of Fastening the Elements of the Node. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, 3(3), 40-44.
20. Islomovna, M. F. (2023). Engineering Computer Graphics Drawing Up and Reading Plot Drawings. *New Scientific Trends and Challenges*, 120-122.
21. Абдуллаев С. С., Рафиева Н. А. Искусства древней Руси и средней Азии в духовном диалоге (исторический экскурс) //Вестник науки и образования. – 2020. – №. 21-2 (99). – С. 101-104.
22. Тошев И. И., Абдуллаев С. С. Торговые купола Бухары //Интернаука. – 2018. – №. 14-1. – С. 31-33.
23. Jurayevich J. K., Sayfullayevich A. S. THE UNIQUE OF BUKHARA JEWS IN THE DYE INDUSTRY AND WEAVING CRAFT //Euro-Asia Conferences. – 2021. – Т. 1. – №. 1. – С. 48-53.
24. Abdullayev S. S., Hamroyev J. B. Features of the Organization of Pedagogical Practice. – 2023.

25. Юсупалиева, Д. К. (2016). Историко-социологический анализ развития телевидения в Узбекистане. *Вестник Челябинского государственного университета*, (1 (383)), 155-160.
26. Юсупалиева, Д. К. (2020). Основные направления политики Республики Узбекистан в отношении Европейского Союза. *Молодой ученый*, (40), 186-188.