



## MODERN TRENDS AND PROSPECTS FOR THE DEVELOPMENT OF INDUSTRIAL AND INTERIOR DESIGN IN UZBEKISTAN

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**Annotation:** This article examines modern trends and prospects for the development of industrial and interior design in Uzbekistan. In industrial design, the importance of computer-aided design (CAD), 3D modeling, prototyping, digital manufacturing, and ergonomic approaches is increasing. In interior design, functionality, minimalism, the use of environmentally friendly materials, smart technologies, energy-efficient solutions, and the integration of national decorative elements with contemporary design solutions are emerging as major trends.

**Keywords:** industrial design, interior design, design education, CAD, 3D modeling, digital technologies.

### O'ZBEKISTONDA SANOAT VA INTERYER DIZAYNI RIVOJLANISHINING ZAMONAVIY TENDENSIYALARI VA ISTIQBOLLARI

**Annotatsiya:** Mazkur maqolada sanoat dizaynida kompyuter yordamida loyihalash (CAD), 3D modellash, prototiplash, raqamli ishlab chiqarish va ergonomik yondashuvlarning ahamiyati ortib bormoqda. Interyer dizaynida esa funktsionallik, minimalizm, ekologik materiallardan foydalanish, aqlli texnologiyalar, energiya samaradorligi hamda milliy bezak elementlarini zamonaviy yechimlar bilan uyg'unlashtirish asosiy tendensiyalardan biri sifatida namoyon bo'lmoqda.

**Kalit so'zlar:** sanoat dizayni, interyer dizayni, dizayn ta'limi, CAD, 3D modellash, raqamli texnologiyalar.

### СОВРЕМЕННЫЕ ТЕНДЕНЦИИ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ПРОМЫШЛЕННОГО И ИНТЕРЬЕРНОГО ДИЗАЙНА В УЗБЕКИСТАНЕ

**Аннотация:** В данной статье рассматриваются современные тенденции и перспективы развития промышленного и интерьерного дизайна в Узбекистане. В промышленном дизайне возрастает значение компьютерного проектирования (CAD), 3D-моделирования, прототипирования, цифрового производства и эргономического подхода. В интерьерном дизайне основными тенденциями становятся функциональность, минимализм, использование экологически безопасных материалов, интеллектуальных технологий и энергоэффективных решений, а также гармоничное.



сочетание элементов национального орнамента с современными дизайнерскими решениями.

**Ключевые слова:** промышленный дизайн, интерьерный дизайн, дизайн-образование, CAD, 3D-моделирование, цифровые технологии.

The prospective development of industrial and interior design is primarily dependent on the system of training qualified designers who possess modern knowledge and professional competencies. Today, the profession of a designer is no longer limited to creating aesthetic forms and compositions; rather, it is developing in close connection with technology, engineering, materials science, economics, marketing, ergonomics, ecology, and digital technologies. Therefore, adapting the content of design education to the requirements of modern production and the market is one of the important priorities.

The formation and development of design education in Uzbekistan are closely associated with the country's historical experience in applied arts, architecture, craftsmanship, and production culture. National patterns, painting, wood carving, ganch carving and plasterwork, ceramics, embroidery, and other forms of folk applied art serve as important creative resources in the training of design specialists. However, in addition to mastering these traditional forms of knowledge, modern designers are required to have a good understanding of new technologies and international design standards [1].

At present, the continuous improvement of design programs in higher education institutions is creating important opportunities for the professional development of industrial and interior design. In addition to traditional subjects such as composition, color theory, technical drawing, and the fundamentals of design, a growing proportion of design curricula is devoted to computer graphics, CAD software, 3D modeling, digital visualization, materials science, ergonomics, and modern production technologies [2].

In particular, teaching Computer-Aided Design (CAD) software is of great importance for industrial and interior design. Students are able to create products, furniture, equipment, rooms, and other design objects in a digital environment, determine their dimensions, develop structural components, and test different design alternatives. This approach not only accelerates the traditional design process but also makes it possible to identify potential design errors at an early stage [3].

One of the most widespread and promising directions in interior design is the integration of minimalism and functionality. Minimalism is based on eliminating unnecessary decorative elements, simplifying forms and compositions, creating harmonious color schemes, making rational use of space, and establishing a comfortable environment for users. In this approach, every piece of furniture, equipment, or decorative element is expected to perform a specific function and harmonize with the overall composition.

One of the main characteristics of minimalist interiors is the creation of an open and organized space. Reducing unnecessary furniture and objects creates a visual sense of



spaciousness. In particular, the relatively small size of residential spaces in multi-storey buildings constructed in urban areas requires designers to make the most efficient use of available space. Therefore, compact, multifunctional, and transformable furniture is becoming an important solution in contemporary interior design.

The increasing importance of environmental protection, the rational use of natural resources, the reduction of energy consumption, and waste minimization has also created new requirements for the field of design. Consequently, contemporary interior designers need to consider not only the aesthetic and functional characteristics of a space but also its environmental impact.

One of the fundamental principles of ecological design is the use of natural and environmentally friendly materials. Natural wood, stone, ceramics, bamboo, cotton, linen, and wool can provide interiors with a natural character and aesthetic appeal. In addition, the use of recycled or secondary raw materials can contribute to reducing the amount of waste generated.

The use of Project-Based Learning (PBL) in the educational process can produce effective results. This method is based on applying students' theoretical knowledge to solving real-life or realistic design problems. Students are given a specific design problem or task and are expected to solve it step by step, either independently or as part of a team.

For example, industrial design students may be assigned projects such as developing compact and multifunctional furniture for a small apartment, creating a new product design for a local manufacturing enterprise, designing a household item using environmentally friendly materials, developing a concept for a modern lighting fixture, or creating a contemporary product based on traditional national decorative elements.

In interior design education, students may be assigned to develop design concepts for small apartments, modern offices, cafés, hotels, classrooms, or public spaces. In such projects, students are expected to consider not only the aesthetic appearance of the space but also its functional zoning, circulation patterns, furniture and equipment placement, lighting, color schemes, materials, and ergonomic requirements [4].

The schools of applied arts and craftsmanship that have developed over centuries in different regions of Uzbekistan represent an important source of the country's distinctive cultural heritage. Wood carving, ganch carving and plasterwork, ornamental painting, ceramics, embroidery, carpet weaving, gold embroidery, and other traditional crafts offer significant creative opportunities for contemporary design.

Traditional handicraft products can be viewed not only as historical or decorative objects but also as creative sources for developing functional products adapted to contemporary lifestyles. In this process, the fundamental aesthetic characteristics of traditional ornamentation and techniques can be preserved while the form, dimensions, functionality, and materials of products are reinterpreted according to contemporary requirements.

The use of local raw materials is also of great importance for the development of industrial design. Wood, natural stone, ceramics, ganch, cotton fiber, silk, wool, leather, and other



materials available in Uzbekistan can be widely used in the creation of design products. By thoroughly studying the natural properties of these materials and processing them using modern technologies, it is possible to develop products with high ecological, aesthetic, and functional value.

The economic aspect of using local raw materials is also significant. The use of locally sourced materials in manufacturing can reduce dependence on imported raw materials, optimize transportation and logistics costs, and support local producers. At the same time, increasing the level of processing of local raw materials can contribute to the development of new production sectors and the creation of additional employment opportunities. Cooperation between higher education institutions specializing in design, handicraft centers, and local artisans can further contribute to the development of this process [5].

In conclusion, the development of industrial and interior design is closely associated with modern technologies, improvements in production processes, changing consumer needs, and growing interest in national cultural values. In interior design, trends such as minimalism, functionality, the use of environmentally friendly materials, energy efficiency, and harmony with the natural environment are becoming increasingly important. At the same time, the incorporation of national patterns, traditional craftsmanship, and local raw materials into contemporary design solutions represents an important factor in establishing the distinctive character of Uzbek design.

To further develop the sector, it is necessary to strengthen cooperation between higher education institutions and manufacturing enterprises, promote practice-oriented design education, widely introduce modern digital technologies, and enhance the creative and technical competencies of young designers. Such measures can contribute to the formation of a modern and competitive design sector in Uzbekistan and create favorable conditions for the development of products and interior solutions that combine contemporary technologies with national cultural identity.

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