

RELEVANCE OF THE BIONIC APPROACH IN EDUCATING FUTURE PROFESSIONALS IN ARCHITECTURE AND DESIGN

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One of the main challenges facing modern architecture and design is finding effective solutions that address global issues that determine the direction of society's development as a whole, and personalized needs that cater to each individual. Global challenges include sustainability, environmental responsibility, and integration with nature and society, while local context is also important. Accordingly, the development of buildings and facilities should aim to minimize negative impacts on the environment, reduce energy and resource consumption, and contribute to the conservation of natural resources and biodiversity. It is also important to develop projects that fit harmoniously into the natural environment and sociocultural context, taking into account the needs and preferences of users and residents. Projects should consider global trends and challenges, such as climate change and urbanization, as well as local characteristics, traditions, and cultural values. Objectives should aim to improve the quality of life, creativity, and aesthetics while meeting the users' needs. Accordingly, creating spaces that promote physical, emotional, and social well-being by providing comfort, security, accessibility, and functionality is a significant challenge. Development of original and inspiring shapes, textures, colors, and compositions that create unique and attractive visual images and atmosphere; projects that meet the expectations and requirements of customers, taking into account the needs and preferences of users and residents also fall within the scope of modern architecture and design.

The bionic approach is an effective method in modern architecture and design as it considers integration with nature, efficient use of space, environmental resilience, balanced use of energy and resources, and sustainable development. This approach is objective and employs precise technical terms to convey meaning accurately. The bionic approach is an effective method in modern architecture and design as it considers integration with nature, efficient use of space, environmental resilience, balanced use of energy and resources, and sustainable development.

The use of bionic principles in architecture and design enables the creation of objects that blend seamlessly into the environment, interact with natural processes, and maximize the use of natural resources. By studying biological systems, we can develop methods to optimize space utilization while considering the needs of people and ensuring comfort and functionality. Bionic solutions enable the creation of buildings and facilities that can adapt to climate change and other external influences while

maintaining their functionality and aesthetics. They also reduce energy and resource consumption by optimizing processes according to natural cycles and laws. The bionic approach is an important aspect of sustainable development, contributing to the creation of balanced and harmonious urban and rural environments that meet the needs of modern society and are preserved for future generations. Additionally, bionic principles in architecture and design have sociocultural significance, promoting the formation of new values that emphasize the importance of human interaction with nature and respect for biological diversity.

The bionic approach can also inspire innovation by observing natural processes and adapting their principles in architecture and design. This stimulates creative thinking and inspires the creation of new, unique concepts. Through the bionic approach, it is possible to create organic and aesthetically attractive forms and structures that reflect the beauty and functionality of natural objects. The analysis of biological systems can contribute to creating an environment that enhances people's physical and emotional well-being by providing optimal conditions for work, learning, and recreation.

The study of the bionic approach is important in modern architecture and design training for several reasons. It inspires the development of new materials, technologies, and design methods, helping students stay at the forefront of innovation and adapt to changing market demands. Additionally, it teaches students to create environmentally sustainable and energy-efficient facilities, which is increasingly important in the context of climate change and growing interest in environmental responsibility. Finally, it teaches students to create projects that interact harmoniously with the natural environment and socio-cultural context, taking into account the needs and preferences of future users and inhabitants. The study of bionics involves collaboration among various fields of knowledge, including biology, engineering, architecture, and design. This interdisciplinary approach enables students to develop a multifaceted skill set and view problems from diverse perspectives. Bionics draws inspiration from natural principles to inspire innovative and creative solutions. Adopting this approach stimulates students' creative thinking and facilitates the development of innovative design strategies. Architects and designers today must be equipped to tackle future challenges, including climate change resilience, resource efficiency, and creating healthy urban environments. The study of bionics can help students develop the necessary skills to address these challenges.

Understanding the bionic approach is crucial for contemporary architects and designers to develop sustainable, innovative, and functional facilities that meet the needs of society and the natural environment. It is recommended that modern architects and designers adopt a bionic approach that satisfies both societal and environmental requirements.