

ВІМ-ТЕХНОЛОГІЇ В АРХІТЕКТУРНО-БУДІВЕЛЬНОМУ ПРОЄКТУВАННІ

BIM-TECHNOLOGIES IN ARCHITECTURAL AND CONSTRUCTION DESIGN

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Studying the needs of the market, we can say that serious changes are taking place in the direction of informatization of the architectural and construction industry.

In recent years, BIM technology has become a fundamentally new approach to the architectural and construction design of objects in the construction industry. This technology is based on the joint design of architects, designers, engineers and technologists.

The central role of BIM technology is assigned to three-dimensional modeling. With an informational approach to modeling, the 3D model becomes not only a visualization object for checking the optimality of volume-planning solutions at the stage of architectural and construction design, but also a carrier of all graphic and textual information about the building or structure at all stages of the design and construction cycle.

Therefore, one of the ways to increase the effectiveness of educational activities is interdisciplinary projects that allow to raise the level of student training. Currently, in the conditions of the domestic educational process, the methodology of implementing

interdisciplinary projects in the design and graphic preparation of students of the architectural and construction profile has not been sufficiently worked out. Qualitative changes during the training of architects can be achieved by developing a methodology for implementing interdisciplinary connections taking into account an interdisciplinary project. This can be achieved by combining goals, content elements, operational connections, methods and organization of design and graphic training of students.

The goals of the interdisciplinary project are the following predicted results:

1. Formation of generalized inter-integrative knowledge and skills;
2. Increasing the level of completeness of spatial representations and the breadth of students' operation of dynamic spatial images. Consistently developing spatial thinking, the interdisciplinary project method enables students to see spatial connections and relationships between geometric objects and their parts, increases the degree of freedom of operation with these elements;
3. The transition from the sketch stage of design to the formation of drawings and models contains elements of construction and reconstruction, coding and decoding of information, which allowed students to develop creative (research) skills;
4. Mastering the means of modern transmission of graphic information with the help of graphic information technologies (AutoCAD technology) has led to increased motivation for learning, as the visual tools of the program significantly expand pedagogical opportunities and have a positive effect on learning.

The innovative interaction of all branches, directions and specialties involved in the design, construction and operational support of architectural and urban planning objects is one of the main directions of the modern development of architecture and urban planning.

New construction and expert assessments of the condition of existing buildings require modern methods and approaches, which can be considered elements of BIM technology. The implementation of this technology will prove the project firm as modern and able to comply with the innovative recommendations of the Ministry of Construction, Architecture and Housing and Communal Services of Ukraine.

Attention to all aspects and innovations of BIM technologies in the field of architecture and urban planning, construction of civil and industrial infrastructure will ensure the sustainable development of urban infrastructure objects and will contribute to ensuring high-quality restoration and revitalization of architectural and construction objects.

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