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VARIABILITY AND MULTIDIRECTIONALITY APPROACHES IN TEACHING ARCHITECTURAL COMPOSITION AND GRAPHICS UNDER DYNAMICALLY CHANGING PROFESSIONAL CONDITIONS

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Abstract. The article addresses the problem of updating the content and teaching methodology of the discipline «Architectural Composition and Graphics» for second-year bachelor students in the context of rapid digitalization and changing professional requirements. The limitations of the traditional linear approach, which duplicates first-year basic exercises and creates an abrupt transition to senior-year 3D modeling, are analyzed. The author proposes a branching methodological model called «creative fan», built around four key vectors: experimental form-making, analytical diagramming, graphic design, and hybrid presentation techniques. Implementing this model alongside active learning methods fosters visual thinking, creative flexibility, and competition-ready presentation skills.

Keywords: architectural education, architectural composition, architectural graphics, teaching methodology, creative fan model, hybrid graphics, architectural diagramming.

Introduction and relevance of the problem. Modern society and the architecture and construction industry are changing so rapidly that narrow specialization, or mastery of a single academic method of work, is no longer a guarantee of a successful career. A graduate of an architecture school must be prepared for lifelong learning, for working at the intersection of disciplines, and for seeking unconventional design solutions.

Classical exercises in composition and architectural graphics remain the foundation; however, they focus solely on drilling an established set of graphic skills (prolonged copying, repetitive hatching exercises, or classical wash rendering). Under conditions of rapidly renewed design tools and digitalization, such linearity constrains the adaptability of the future professional.

The tasks and exercises of the course «Architectural Composition and Graphics» in the second year of study should serve as a bridge between the stage of acquiring the

basic competences of the first-year study and design presentation and visualization in senior years, with in-depth use of digital technologies.

In a dynamically changing environment, the key task of a higher education institution is not to confine students to a single «canonical» style of work, but to offer them the widest possible range of directions for creative and professional development. Students should be able to test different compositional and graphic approaches in order to consciously choose their own trajectory for further improving their professional skills.

The place of the discipline in the continuous educational trajectory. The effectiveness of updating the content of the course «Architectural Composition and Graphics» directly depends on its precise positioning within the overall structure of bachelor-level training. In the typical educational model of architecture schools, this course acts as a key link between the basic preparatory courses and the advanced design and digital disciplines of senior years.

On the one hand, the programme should build on the students' previous experience and avoid unjustified duplication of learning material. In the first year, students already acquire basic competences within the courses «Fundamentals of Composition and Colour Studies» and «Fundamentals of Architectural Design». At this stage, they develop the skills of constructing elementary geometric compositions, an understanding of color theory, basic hatching techniques, and the conventional depiction of environmental elements (entourage and human figures). Devoting limited second-year contact hours to the mechanical reproduction of textures or basic landscape elements slows students' learning progression. Instead, this time should be allocated to synthesising existing knowledge and applying it across scales: moving from abstract exercises towards the development of complex three-dimensional spatial structures at different hierarchical levels of the urban environment - the macro, meso, and micro scales.

On the other hand, the course must serve as a methodological «bridge» to the next stage of professional training, in which students will study in depth the discipline «Architectural Presentation and Visualization of Projects», using complex software and 3D modeling. If the transition from classical hand-drawn presentation to photorealistic rendering is abrupt, students often perceive computer graphics merely as a technical tool and lose the compositional integrity and artistic expressiveness of their presentations.

It is precisely at this intermediate stage that the course «Architectural Composition and Graphics» is called upon to lay the foundation of visual thinking, analytical structuring of information, and compositional layout. Mastering the principles of graphic stylization, diagramming, and hybrid techniques (combining hand sketching with work on graphics tablets) enables students to develop a culture of design presentation, onto which modern digital technologies are organically superimposed in senior years.

The «Creative Fan» teaching model. To implement the principle of multidirectionality learning, it is proposed to move away from the traditional linear

structure of the course (Fig. 1), in which all students follow a single unified route and perform uniform academic tasks. Such an approach is convenient for standardized assessment, but it limits students' exploratory potential and does not take into account differences in their individual abilities.

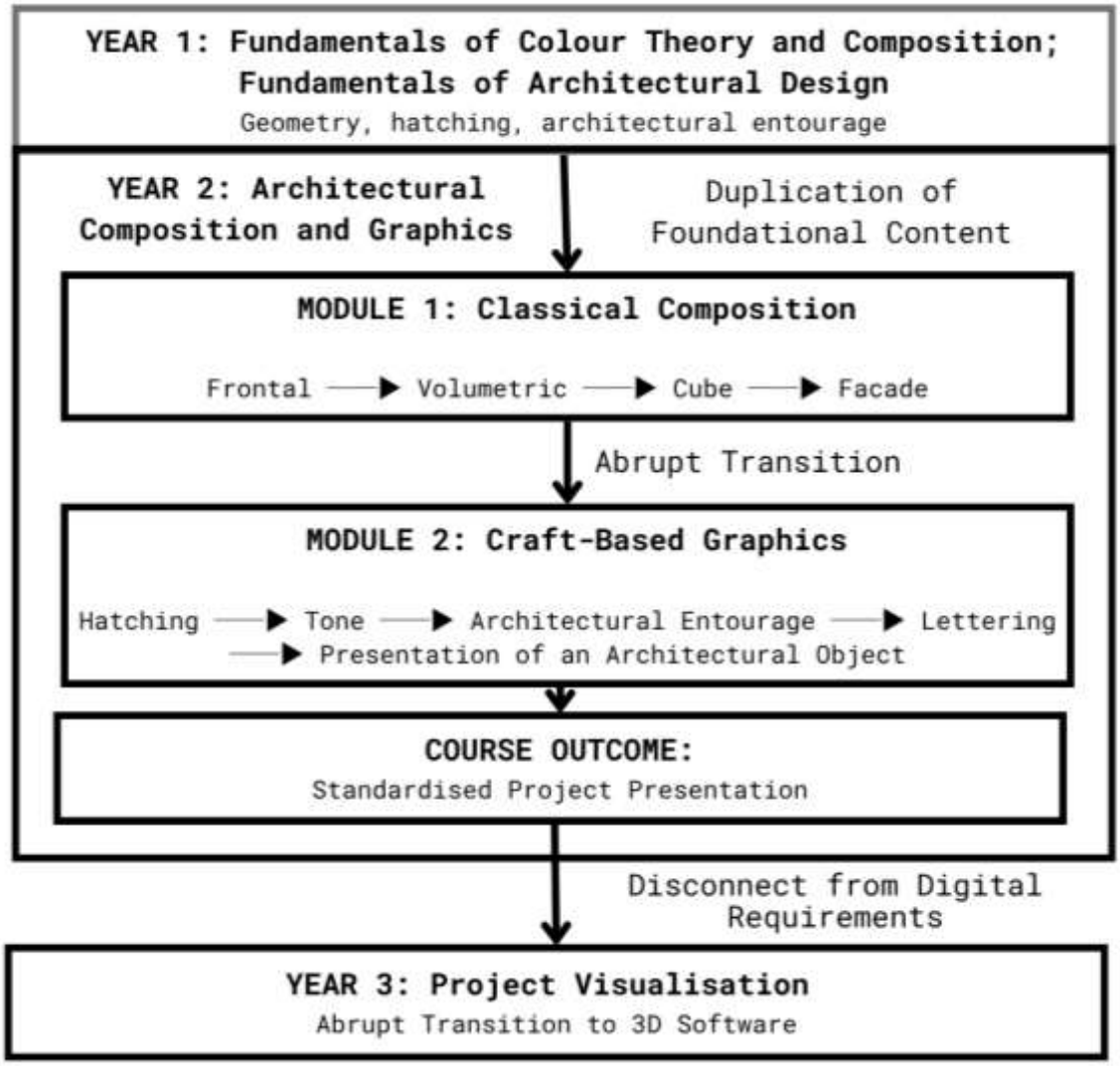

Fig. 1. The traditional linear model of teaching the discipline

In contrast, a methodological model called the «creative fan» has been developed (Fig. 2), in which the course functions as an intensive design-and-graphics laboratory. Building on the first-year foundation, the student enters an environment of controlled variability, where they can test different methods of form-making and visual communication before moving on to complex digital design.

The proposed model covers four key vectors of professional development, which are integrated in the final design assignment:

Experimental form-making and model building. Alongside classical exercises on the transformation of geometric volume, light-and-shadow plasticity, and the integration of new architecture into a historical context, students are offered a variable block of contemporary plastic explorations: folded structures, pop-up compositions, elements of architectural bionics, and the consideration of the temporal characteristics

of space (the fourth dimension). Learning outcome: the student is able to translate an idea into volumetric form and assess its structural logic.

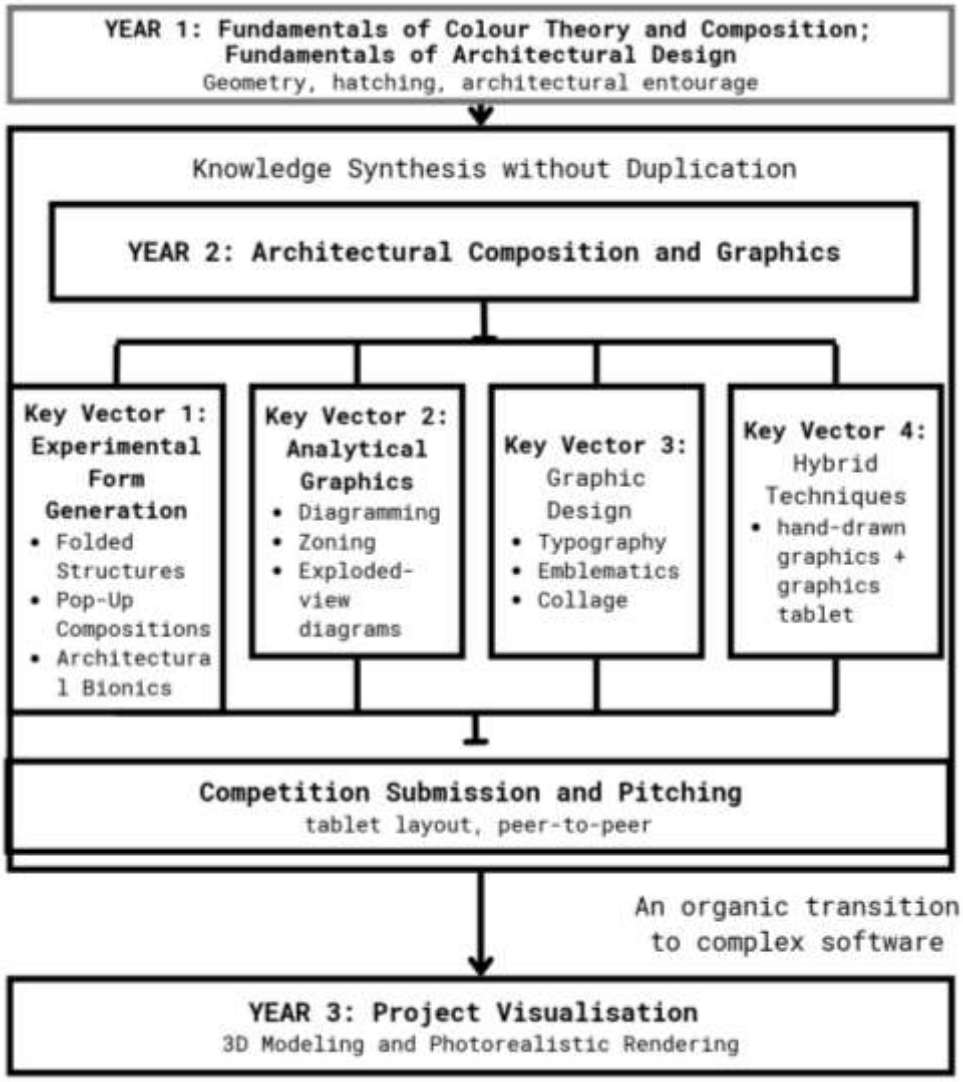

Fig. 2. The branching methodological «creative fan» model

Analytical graphics and architectural diagramming. Contemporary architectural communication requires not only depicting the appearance of a building, but also clearly explaining the logic of its creation. For this reason, the course introduces work with informative three-dimensional graphics: constructing axonometric (volumetric) sections, exploded-view diagrams, and analytical diagrams of functional zoning. Learning outcome: the student structures information and presents design logic as a clear graphic scheme, drawing on an understanding of the diagram as a tool of analysis and synthesis.

Graphic design, typography, and identity. Understanding the rules of compositional layout, architectural typography, emblematics, and the fundamentals of visual branding of projects develops in students a culture of competition-ready presentation. Skills in stylizing contemporary materials and working with collage make

it possible to create expressive, emotionally rich presentations. Learning outcome: the student composes a presentation board as a coherent visual narrative.

Hybrid toolkit and development of soft skills. The model does not set hand drawing against computer technologies but encourages their synthesis, combining classical media (fineliner, marker, watercolor) with graphics tablets and basic graphic editors. An important component is the use of active learning methods: small-group work, the case method, peer-to-peer review, and short public defenses (pitching), which develop skills of argumentation and teamwork. Learning outcome: the student deliberately chooses a tool to suit the task and preserves compositional expressiveness when moving between tools.

Thus, within a single semester, each student tries themselves in the roles of conceptualist, model maker, analyst-diagrammer, and graphic designer, which allows them to identify their own strengths and develop an individual presentation style.

Conclusions. Rethinking the content and teaching methodology of the course «Architectural Composition and Graphics» is a necessary response of architectural education to the dynamic changes of the modern professional environment. Abandoning the rigid linear model of instruction in favor of the proposed «creative fan» methodological model makes it possible to address several pedagogical and professional tasks at once:

1. **Ensure continuity across the educational trajectory.** Eliminating the duplication of first-year basic topics (elementary composition, hatching, and entourage) frees classroom time for deeper exploration of the urban-planning context and builds a solid analytical foundation before the transition to complex digital visualization technologies in senior years.

2. **Develop flexibility of professional thinking.** Combining experimental model making, architectural diagramming, the fundamentals of graphic design, and hybrid presentation techniques within a single course broadens students' horizons and enables them to consciously choose their own vector of creative development.

3. **Strengthen graduates' practical readiness.** Integrating active learning methods (the case method, peer-to-peer review, public pitching) develops communication competences (soft skills), preparing future architects for real design practice, teamwork, and participation in international competitions.

A prospect for further research is the development of criteria for assessing students' individual creative trajectories within the variable modules, and the adaptation of digital tools for conceptual sketching to the educational process of the early years of study.

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АРХІТЕКТУРА ДЛЯ БІОРІЗНОМАНІТТЯ: ПРОЄКТУВАННЯ «ТВАРИННО-ОРІЄНТОВАНИХ» БУДІВЕЛЬ (ANIMAL-AIDED DESIGN) ЯК ЗАСІБ ЗБЕРЕЖЕННЯ БІОСФЕРИ МІСТ

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Анотація. Розглянуто можливості інтеграції біорізноманіття в архітектурне проєктування на основі концепту Animal-Aided Design (AAD). Висвітлено принципи формування будівель як середовища існування тварин, врахування їхніх життєвих потреб на етапах проєктування та значення птахобезпечних архітектурних рішень для збереження міських екосистем.