MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

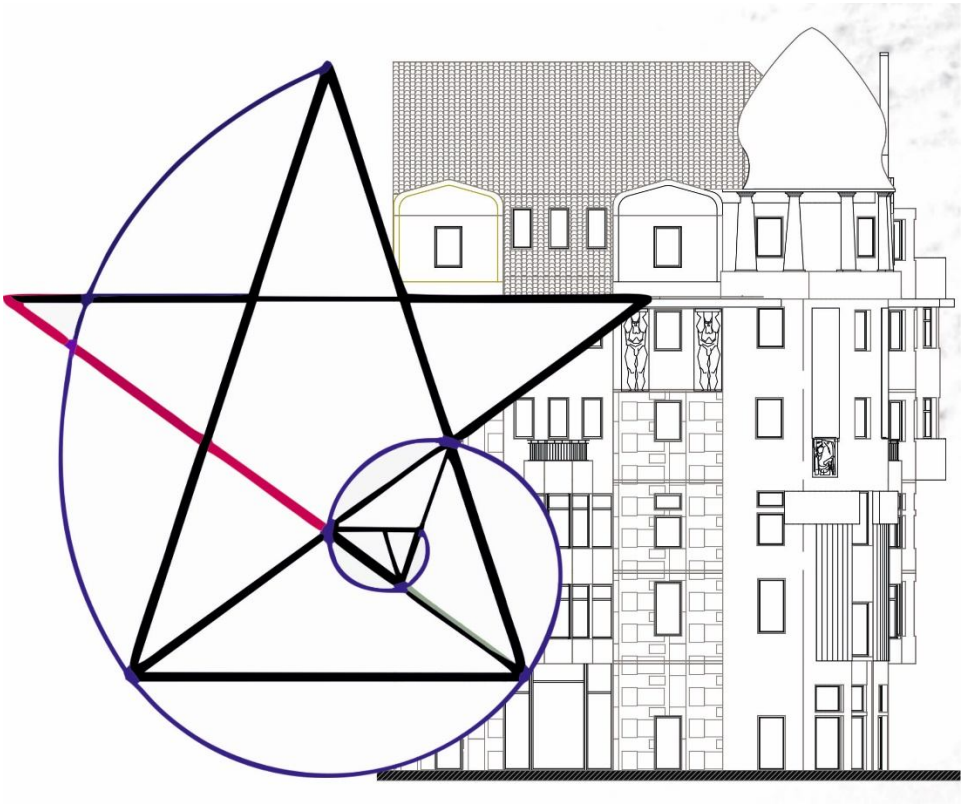
O. M. BEKETOV NATIONAL UNIVERSITY
of URBAN ECONOMY in KHARKIV

METHODOLOGICAL RECOMMENDATIONS

for practical and independent work
on the discipline

«ARCHITECTURAL COMPOSITION»

(for 1-st year foreign students of full-time education,
educational specialty 191 – Architecture and urban-planning)



Kharkiv – O. M. Beketov NUUE – 2021

Methodological recommendations for practical and independent work on the discipline «Architectural composition» (for 1-st year foreign students of full-time education, educational specialty 191 – Architecture and urban planning) / O. M. Beketov National University of Urban Economy in Kharkiv ; comp. : L. O. Bogdanova, A. A. Korovkina, S. S. Bronnikova, L. S. Martyshova. – Kharkiv: O. M. Beketov NUUE, 2021. – 42 p.

Compilers: Senior lecturer L. Bogdanova,

Senior lecturer A. Korovkina,

PhD in architecture, Assistant S. Bronnikova,

PhD in architecture, Associate professor L. Martyshova

Reviewer:

E. N. Dudka, PhD in architecture, Associate professor at the department of Buildings and Structures and Design of the Architectural Environment in O. M. Beketov National University of Urban Economy in Kharkiv

Recommended by the department of Fundamentals of Architectural Design.
minutes dated № 1 on 29.08.2020

CONTENT

INTRODUCTION

The discipline “Architectural Composition” is the basic among the normative disciplines of the educational level “Bachelor” in the educational program “Architecture” specialty 191 – “Architecture and Urban Planning”.

Architectural activity – development of a creative idea and its implementation. Students' skills in sketching, working with color, and developing three-dimensional thinking and imagination are mandatory in teaching, which together constitutes professional graphic erudition.

The study subject of the discipline is the basics of architectural composition, its main laws, methods and means of creation, as well as the identification of compositions of various types.

Interdisciplinary links:

The study of this discipline is directly based on the basic knowledge of general secondary education and is preceding the following disciplines: typology of buildings and structures, architectural design: “ground garage”; architectural design: “individual house”; architectural design: “layout of an individual house”; history of architecture, urban planning from the Renaissance to Modernism, software tools for designing architectural objects, software tools for designing objects in the urban environment.

Discipline **“Architectural composition”** consists of the following content modules (further – CM):

MODULE 1

Content module 1.1 Objective properties of architectural forms.
Content module 1.2 Means of architectural forms revealing.
Content module 1.3 The main types of architectural forms composition.

MODULE 2

Content module 2.1 Fundamentals of volumazing architectural composition forming.
Content module 2.2 Fundamentals of architectural space formation.
Content module 2.3 Fundamentals of interior composition.

The purpose of teaching the discipline “Architectural Composition” is to provide knowledge of methods for creating architectural compositions, based on imagination, criteria of aesthetics, involving historical experience, taking into account the artistic and compositional means, to engage in formation; create an architectural and artistic image; apply this experience in the creative method of architectural design.

Tasks of studying the discipline:

– development of three-dimensional and compositional thinking;

– ability to make sketches of decisions of an architectural composition according to requirements;

– mastering various techniques of architectural graphics;

– formation of skills of application of color in the decision of various types of a composition;

– mastering the basics of layout;

– study the research methods of the composition on the existing architectural buildings base, execution of sketches;

– acquisition of theoretical knowledge and practical skills of composition creation and its application in the architectural projects development.

The program learning outcomes is:

– analyze the architectural and compositional features of architectural objects;

– to apply in practice artistic and compositional principles on the basis of the received theoretical knowledge at architectural and town-planning designing;

– be able to choose rational architectural solutions based on the analysis of the effectiveness of structural, engineering and technical systems;

– to apply in practice rational architectural solutions on based on the analysis of effectiveness of structural, engineering and technical systems, building materials, and products, decorative and finishing materials.

1 THE ACADEMIC DISCIPLINE CONTENT ACCORDING TO THE CONTENT MODULES AND THEMES

MODULE 1 (semester 1)

Content module 1.1 Objective properties of architectural forms

The main concepts of architectural composition are considered. In this context, special attention is paid to the role of domestic and foreign scientists in the development of this science. The characteristics of metro-rhythmic patterns, symmetry, asymmetry and disymmetry, the concept of nuance, contrast and identity are determined. Particular attention is paid to the emotional characteristics of statics and dynamics.

Theme 1.1.1 The main concepts of architectural composition. The role of domestic and foreign scientists in the development of this science

Theme 1.1.2 Characteristics of metro-rhythmic patterns. The concepts of symmetry, asymmetry and disymmetry. The concept of nuance, contrast and identity.

Content module 1.2 Means of architectural forms revealing

Proportional systems according to certain historical periods of architecture development are considered. The concept of scale of architecture in the historical and

modern environment is defined. Particular attention is paid to the characteristics of tectonics in the architectural composition. Historical and modern tectonic systems are classified. In this context, attention is paid to color and its main properties in architecture and architectural space, as well as the psychology of color perception.

Theme 1.2.1 The concept of proportion and scale in architectural composition. Consideration of proportional systems according to certain historical periods of architectural development. The scale of architecture in the historical and modern environment

Theme 1.2.2 The concept of tectonics in architectural composition. Historical and modern tectonic systems.

Theme 1.2.3 Color and its main properties. Achromatic and chromatic circles. Color in architecture and architectural space.

Content module 1.3 The main types of architectural forms composition.

In continuation of the study of the composition of architectural forms, the main types of architectural composition and the main means of its revealing are analyzed. Peculiarities of frontal, volumaze and deep-spatial composition are studied. The properties of the frontal composition, the means of its revealing are determined: silhouette, articulation, plasticity, texture.

Theme 1.3.1 The main types and revealing means of architectural composition. The concept and features of frontal, volumaze and deep-spatial composition.

Theme 1.3.2 The main properties of the frontal composition. The means of frontal composition revealing: silhouette, articulation, plastic, texture.

MODULE 2 (semester 2)

Content module 2.1 Fundamentals of volumazing architectural composition forming.

The main properties of a volumazing composition are considered and analyzed. Methods of forming a volumazing composition with the help of artistic-compositional means are revealed. The artistic image in architecture, the symbolic and semantic components of the architectural image are revealed. Means of creation of architectural compositions by combinatorial and bionic methods are defined.

Theme 2.1.1 The main properties of the volumazing composition. Constructionand types of a volumazing composition.

Theme 2.1.2 Methods of volumazing composition forming with the help of artistic and compositional means. Artistic image in architecture. Symbolism of the artistic image. Semantic component of the architectural image.

Theme 2.1.3 Bionics and combinatorics in the development of "organic" architecture of the XXI century. Means of creating architectural compositions using combinatorial and bionic methods.

Content module 2.2 Fundamentals of architectural space formation.

The subject of consideration and study in this thematic block are the main properties of the depth-spatial composition and means of its revealing. The specificity of the architectural ensemble as a phenomenal depth-spatial compositional system is determined. Peculiarities of visual perception in architectural composition, recognition of visual configurations are revealed. The characteristic of emotional perception of the world by the person and its role in an art composition is given.

Theme 2.2.1 The main properties of the deep-spatial composition and means of its revealing. Architectural ensemble as a phenomenal depth-spatial compositional system.

Theme 2.2.2 Visual perception features in architectural composition. Recognition of visual configurations. Mans emotional perception of the world and its role in artistic composition.

Theme 2.2.3 Compositional analysis of the city architectural environment objects. Construction methods features of deep-spatial compositions.

Content module 2.3 Fundamentals of interior composition.

The main stylistic features of the composition of interiors and means of their detection are considered and analyzed. It is characterized by the psycho-emotional impact of the color scheme of the interior on a person. The basics of ergonomics in interior design are determined. The characteristic of the general ergonomic schemes and receptions of their use in designing of rooms is given.

Theme 2.3.1 The main stylistic features of the interiors composition and means of their revealing.

Theme 2.3.2 Fundamentals of ergonomics in interior design. General ergonomic schemes.

2 ORGANIZATIONAL AND METHODOLOGICAL RECOMMENDATIONS

The method of teaching the course “Architectural Composition” involves working in a dialogue mode of the teacher with students and is designed for 32 hours of lectures, 47 hours of practical classes and 101 hours of independent work.

For students to understand the structure of the educational process and the connection between practical classes and independent work, this section is presented in the form of structural and content tables that include information on the content, structure and distribution of themes and brief recommendations for practical tasks and independent work.

3 STRUCTURE OF ORGANIZATIONS AND CONTENT OF CLASSES

When studying the discipline “Architectural composition” the student should get acquainted with the program of the discipline, with its structure, content and scope of each content module, with all types and methods of knowledge control (Table 1).

Practical classes in the discipline of "Architectural Composition" are aimed at acquiring skills of practical work with a wide range of means of decorative and graphic representation of the composition on the plane, in volume and space.

Table 1 – The structure of the organization and the content of practical classes

Types of lessons	Hours	Themes, content and methodological recommendations on conducting practical classes and independent work
1	2	3
MODULE 1 (semester 1)		
Content module 1.1 Objective properties of architectural forms		
Practical lesson Theme 1.1.1 Acquaintance with the tasks of the course "Architectural composition" and the achievements of domestic and foreign scientists in this science	4	***Task 1 "Greetings"*** Execution of abstract character graphic tasks by means of monochrome graphics methods. Based on the contour of your own palm (right or left) to create a graphic composition, modifying the starting line into one or more images on a free theme (Fig. 1). On a given size of paper, palms of the hands can placed in different positions, except for the pads and fingers crossed. The original contour of the palm should be visible in the composition, although images can be created using both the inner space of the contour area and the outer. The main purpose of the task is to develop an abstract idea of the material form in the form of graphic images and symbols combination. The task is performed in stages: Stage 1 – student draws the contour of his own palm in several versions (placing his palms on a sheet of paper in different directions – up, down, with fingers apart, grouped, etc.). Stage 2 – search in sketches of an abstract image (one or several). Selection of the most interesting composition taking into account the preservation of the original visible contour of the palm. Stage 3 – graphic execution choice, which most reveals the nature of the found image (black and white graphics or in color), the technique of execution is free. Stage 4 – execution in the selected technique on thick paper (Whatman). The task is performed on A4 format paper by hand graphics using pencils, erasers, liners

Continuation of Table 1

1	2	3
Independent work	2	Completion and graphic design of the task "Greetings": layout on a paper drawing and name, execution task in the selected graphic on A4 format.
Practical lesson Theme 1.1.1 Acquaintance with the tasks of the course "Architectural composition" and the achievements of domestic and foreign scientists in this science	4	***Task 2 "Image from numbers"*** Based on your own ideas, create an image (optionally: a person, his cartoon portrait (male or female) or an image of an animal, etc.) using numbers (not more than 15). The numbers in the composition can be used in a mirror image, located in different positions, but without overlays and deformations (Fig. 2). The main purpose of the task is to develop imagination, originality of thinking and graphic skills of working with the line. The task is performed in stages: Stage 1 – to search in sketches a real image with its characteristics. Stage 2 – translation of the most interesting image into the "language" of numbers, by selecting different sizes, shapes, thickness of characters. Stage 3 – analysis of the obtained options and selection of the most optimal. Stage 4 – precise and accurate transfer of the image on a thick paper A4 format (210 mm × 297 mm), in the form of black-and-white graphic composition, strokes of different thickness, filling with a spot or any raster (dots, cells, etc.) . At 2–4 stages of work is recommended to use drawing tools for greater accuracy and expressiveness. The task is performed on A4 format paper by hand graphics using pencils, erasers, liners
Independent work	2	Completion and graphic design of the task "Image from numbers". Getting acquainted with the types of fonts for the design and completion of the task: layout on a paper drawing and name, execution in monochrome graphics with ink on A4 format paper
Practical lesson Theme 1.1.2 Application of metro-rhythmic patterns in	2	***Task 3 "Methrical rows"*** The composition is created using simple geometric shapes (triangle, circle, square, rectangle and trapeze (optionally)). Student develops composition

Continuation of Table 1

1	2	3
the composition. Constructing methods of composition using symmetry, asymmetry and asymmetry. Determination of statics and dynamics in the composition		taking into account the peculiarities of the construction of metrical rows and the use of various methods of metric patterns. There should be from 3 to 9 elements in a row (Fig. 3). Initially, several sketch variants of the graphical solution of simple and complex metrical rows are performed. After agreeing with the teacher on the options of a sketch made with a simple pencil or using computer graphics, the composition is composed on paper with a signature. The task is performed on A4 format paper by hand graphics using gouache, brushes, markers, liners, or colored paper
Independent work	2	Study of metric regularities types. Layout and polychrome design of the task "Metrical rows" on A4 format by paints, markers, applications, etc.
Practical lesson Theme 1.1.2 Application of metro-rhythmic patterns in the composition. Constructing methods of composition using symmetry, asymmetry and asymmetry. Determination of statics and dynamics in the composition	2	***Task 4 "Rhythmical rows"*** The composition is created using simple geometric shapes (triangle, circle or circle, square, rectangle and trapeze (optionally)). Student develops composition taking into account the peculiarities of the construction of rhythmical rows and the use of various techniques of rhythmic patterns. There should be at least 4 elements in a row (Fig. 4). Initially, several sketch variants of the graphical solution of rhythmical rows are performed. After agreeing with the teacher options of a sketch made in a simple pencil, the composition is composed on paper with a signature. The task is performed on A4 format paper by hand graphics using gouache, brushes, markers, liners, or colored paper
Independent work	2	Study of rhythmic regularities types. Layout and polychrome design of the task "Rhythmical rows" on A4 format by paints, markers, applications
Practical lesson Theme 1.1.2 Application of metro-rhythmic patterns in the composition. Constructing methods of composition using	3	***Task 5 "Plane composition with symmetrical and asymmetrical construction and statics or dynamics signs"*** The composition is created from 3–9 simple geometric shapes (triangle, circle, square, rectangle and trapeze). Student develops a symmetrical composition with a sign of statics or an

Continuation of Table 1

1	2	3
symmetry, asymmetry and asymmetry. Determination of statics and dynamics in the composition		asymmetrical composition with a sign of dynamics (optionally). Different types of symmetry and asymmetry with metro-rhythmic patterns are used to accomplish this task (Fig. 5). Initially, several sketch variants of the graphic solution of the geometric composition are made. After agreeing with the teacher options of a sketch made with a simple pencil, the composition is composed on paper with a signature and circled in ink. The task is performed on A4 format paper by hand graphics using pencils, erasers, rulers, rulers, compasses
Independent work	2	Layout and monochrome design of the task "Plane composition with symmetrical and asymmetrical construction and statics or dynamics signs" with liners on A4 format paper
Content module 1.2 Means of architectural forms revealing		
Practical lesson Theme 1.2.1 Introduction to the concept of proportion and scale in architectural composition.Consideration of proportional systems according to certain historical periods of architectural development. Analysis of the scale of architecture in the historical and modern environment	2	***Task 6 "Analysis of an architectural object with the definition of compositional features"*** To perform the analysis, to each student is given an example of the architectural structure facade or architectural monument. The facade of the building graphically depicts in several stages of its compositional analysis (Fig. 6). The list of information stages: 1) general view of the facade; 2) type of symmetry in the form of a structure; 3) basic form – the geometry of the structure; 4) silhouette; 5) rhythmic patterns in the construction of the facade; 6) detection of plastic characteristics of the structure (large plastic); 7) identification of the plastic characteristics of the structure, the nature of the divisions (architectural details); 8) material characteristics and color (texture and texture of the wall). 9) proportional patterns of construction of the facade. The task is performed on 2 papers of A4 format by hand graphics using liners different thicknesses, gel pens, felt-tip pens, colored pencils, etc.
Independent work	2	Completion and color design of the task on A4 format paper

Continuation of Table 1

1	2	3
Practical lesson Theme 1.2.2 Consideration of tectonic systems in architecture. Study of features of historical and modern tectonic systems	2	***Task 7 "Examples of tectonics of historical and modern architectural objects (optionally)"*** Examples of tectonics of historical and modern architectural objects (optionally) are searched for, selected and coordinated with the teacher. The task is performed on A4 format paper by hand graphics using pencils, rulers, liners, colored pencils, watercolors, markers, etc.
Independent work	1	Analysis of features of historical and modern tectonic systems. Layout of selected examples on a A4 format paper and graphic design of the task
Practical lesson Theme 1.2.3 Definition of the color concept and its main properties. Consideration of achromatic and chromatic circle construction features. Analysis of the color use in architecture and architectural space	2	***Task 8 "Construction of chromatic and achromatic circles"*** The tasks are performed on the basis of constructing the transition properties of the main colors: achromatic circle and chromatic circle, which reflects the three main colors (red, yellow, blue), and their opposite colors (green, purple, orange) (Fig. 7). Spectrum (from Latin – change of image as a vision) in an architectural composition is a color band that is gradually formed during the day (24 hours) from the decomposition (darkening – lighting) of white light. It is necessary to determine when performing the spectrum of cold and warm colors, and primary and secondary. The construction of tonal saturation in the achromatic circle is carried out sequentially by lighting from black through gray tones to white. The task is composed on a paper after agreement with the teacher options of sketches and layouts. The task is performed on A4 format paper by hand graphics using pencils, rulers, compasses, liners, gouache, brushes, PVA glue
Independent work	2	Study of the main properties of color in architectural composition. Layout of chromatic and achromatic circles on A4 format paper and colorize the task
Practical lesson Theme 1.2.3 Definition of the color concept and its main properties. Consideration of	2	***Task 9 "Revealing of color saturation"*** Tasks are solved based on the features of color: chromatic – achromatic; warm – cold; basic (primary) and opposite. In this task performing, student are introduced to the terms and concepts associated with the features of

Continuation of Table 1

1	2	3
achromatic and chromatic circle construction features. Analysis of the color use in architecture and architectural space		color, which include the relationship between chromatic and achromatic colors (Fig. 8). The task is performed in 4 stages: 1) student chooses colors from the chromatic and achromatic circle to perform color stretching (red – black, green – gray, yellow – white, etc.); 2) student performs painting, where he gradually brings one color closer to another. It should be noted that this sequence must be performed without color repetitions and without abrupt changes; 3) student allocates on paints an element in the size of 1x4sm, quantity of elements which reflects gradual change of saturation, should be 7-9 pieces; 4) these elements are performed on paper in 3 rows (stretch marks). The composition is performed after agreement with the teacher options for sketches and layouts. The task is performed on a A4 format paper with division into 3 equal parts, tamponing technique. Materials: gouache, brushes, PVA glue, scissors.
Independent work	2	Choice of chromatic colors to detect saturation. Layout on a sheet of three rows of saturation (stretch marks) from achromatic to chromatic colors (A4 format paper)
Practical lesson Theme 1.2.3 Definition of the color concept and its main properties. Consideration of achromatic and chromatic circle construction features. Analysis of the color use in architecture and architectural space	2	***Task 10 "Geometric planar composition with color using"*** Based on the composition made in task 5, its color solution is performed (Fig. 9). The aim of the task is to create a graphic composition, where the displayed colors are made taking into account the interaction of basic (primary) colors of the spectrum and additional, and change the emotional perception of the previously developed geometric planar composition due to color. When choosing a color scheme, the student takes into account the emotional component of colors and its impact on the viewer. Red – emotionally perceived as an energetic, cheerful, excited color. Blue – sensual, soothing, focused. Yellow and its color scheme – active, eye-catching, cheerful.

Continuation of Table 1

1	2	3
		This emotional component is taken into account by the student as a general concept for solving a graphic composition, which in general should create a dynamic or static structure of the composition. It will be related to the choice of color spots and the geometric shape of the elements that make up the composition. The geometric nature of these elements and spots can be simple shapes, irrational or mixed type. The color spectrum is performed using tonal stretches of the basic spectral colors, as well as stretches of additional colors that occur due to the intersection of the primary colors of the spectrum. The task is performed on a sheet of A4 format paper. Materials: pencils, gouache, brushes
Independent work	3	Graphic and color design of the task. Layout on a A4 format paper of geometric planar composition and color design of the task.
Content module 1.3 The main types of architectural forms composition.		
Practical lesson Theme 1.3.1 The main types and means of architectural composition of its detection. The concept of frontal, three-dimensional and deep-spatial composition and their features	1	***Task 11 "Examples of the main types of composition in architecture: frontal, volumaze, high-altitude, deep-spatial"*** Examples of frontal, three-dimensional, high-altitude, deep-spatial composition of historical and modern architectural objects are searched optionally, selected and coordinated with the teacher. The task is performed in A4 format paper by hand graphics using pencils, rulers, liners, colored pencils, watercolors, markers, etc.
Independent work	1	Study of the main types of architectural composition. Layout selected examples on A4 format paper and graphic design of the task
Practical lesson Theme 1.3.2 The main properties of the frontal composition. Means of its revealing silhouette, articulation, plastic, texture	1	***Task 12 "Examples of the application of textures in the architectural surfaces detection"*** Search, selection and coordination with the teacher examples of historical and modern architectural objects texture application (optionally). The task is performed on A4 format paper by hand graphics using pencils, rulers, liners, colored pencils, watercolors, markers, etc.
Independent work	1	Layout selected examples on A4 format paper and graphic design of the task

Continuation of Table 1

1	2	3
Practical lesson Theme 1.3.2 The main properties of the frontal composition. Means of its revealing silhouette, articulation, plastic, texture	3	***Task 13 "Plane model of the frontal formal composition"*** In the frontal composition it is necessary to determine at first – the main parts of the model of the future building, then – the characteristic divisions of these parts. At the last stage of work – determine the characteristic divisions of windows and doors openings, cornices etc. The work is performed in form of a planar layout of white cardboard. Initially, the form is depicted in general, in order to identify its proportional patterns characteristic, geometric shape. Then gradually clarify the characteristic divisions, which emphasize the geometric shapes, silhouette contour, the proportions of the main parts (Fig. 10). The layout of the frontal formal composition is made on a rigid liner made of cardboard or thin plywood. (dimension no more than 300 mm × 150 mm)
Independent work	3	Analysis of the frontal composition properties and execution of the layout according to own sketch
Final control	15	
Total hours	90	3 credits
MODULE 2 (semester 2)		
Content module 2.1 Fundamentals of volumazing architectural composition forming		
Practical lesson Theme 2.1.1 Study of the main properties of a volumaze composition. Construction features and types of volumaze composition	1	***Task 14 "Examples of the main types of volumaze composition in architecture"*** Search, selection and coordination with the teacher examples of the main types of volumaze (three-dimensional) composition in historical and modern architectural objects (optionally). The task is performed in A4 format paper by hand graphics using pencils, rulers, liners, colored pencils, watercolors, markers, etc.
Independent work	1	Layout selected examples on A4 format paper and graphic design of the task.
Practical lesson Theme 2.1.2 Determining the methods of volumaze composition forming	3	***Task 15 "Model of a formal volumize composition"*** The composition is made of volumize (three-dimensional) elements of simple geometric shape. Number of elements from 3 to 5

Continuation of Table 1

1	2	3
using artistic and compositional means. Features of creating an artistic image in architecture and symbolism of the artistic image. Detemining the semantic component of the architectural image		The organization of volumaze (three-dimensional) composition involves the use of several compositional methods: symmetry – asymmetry, contrast in form, metro-rhythmic pattern in the interaction of elements, etc., with the selection of the leading compositional method. The composition is performed in the form of a layout in three stages. At the I stage – student develops the graphic sketch of the general organization of a volumize composition. At the II stage – student develops frontal surfaces of the volume elements entering into a composition (character of divisions, with allocation of the main element or group of elements). At the III stage – student performs a model of a volumaze (three-dimensional) composition with the development of front surfaces (Fig. 11). The model of this composition should be made on a rigid cardboard sub-model or thin plywood. The dimensions of the elements should not exceed a height of 10cm –17 cm (dimensions not more than 300 mm × 200 mm)
Independent work	14	After coordination of graphic sketches variants with the teacher, made model on a rigid cardboard sub-model or thin plywood in certain scale
Practical lesson Theme 2.1.3 Analysis of the formation of bionics and combinatorics in the development of "organic" architecture of the XXI century. The main means of creating architectural compositions using combinatorial and bionic methods	1	***Task 16 "Composition using bionics methods"*** Bionics has found its expression in architecture, using the principles and methods of living organisms organization and forms created by these organisms, in the design and construction of buildings. Principles of bionic form creating: the use of natural forms, aesthetics, functionality. The main methods of creating a bionic architectural form are: the study of living organisms; the selection of necessary and useful functions of living nature; the analysis of the possibility of their use in the development of the object design; creating a sketch; finding methods and techniques for technical modeling of bionic-type compositions; modeling of new objects. The paper sheet should show the three stages of creating a bionic architectural form:

Continuation of Table 1

1	2	3
		1) natural prototype (analogue); 2) intermediate form (transformation of natural analogue); 3) bionic architectural form. The model of a volumaze (three-dimensional) composition is made on a rigid sub-model of cardboard or thin plywood. The dimensions of the elements should not exceed 10cm – 17 cm in height (Fig. 12). The task is performed on A4 format paper by hand graphics using pencils, rulers, liners, colored pencils, watercolors, markers, etc.
Independent work	5	A more detailed development of an architectural object (task 16) according to the prototype of the bionic form, with the definition of the conditional function. Layout and graphic design of the task "Composition using the bionics methods" (A4 format paper) (Fig. 13)
Content module 2.2 Fundamentals of architectural space formation		
Practical lesson Theme 2.2.1 Study of the main properties and means of revealing deep-spatial composition. Defining the concept of architectural ensemble as a phenomenal depth-spatial compositional system	1	***Task 17 "Examples of different types of deep-spatial interior type compositions in architecture"*** Examples of different types of deep-spatial compositions (open, semi-closed, closed) in historical and modern architectural objects (optionally) are searched, selected and coordinated with the teacher. The task is performed on A4 format paper by hand graphics using pencils, rulers, liners, colored pencils, watercolors, markers, etc.
Independent work	1	Layout selected examples on A4 format paper and graphic design of the task
Practical lesson Theme 2.2.2 Determining the features of visual perception in the deep-spatial composition. Study of visual configurations	4	***Task 18 "Model of depth-spatial composition"*** The planning solution of the deep space is revealed due to the different geometric solution of the base surface, as well as due to the types of depth divisions in different coordinate directions (Fig. 14). The first type – the disclosure of perspective (backstage), the second type – the detection of longitudinal axes (naves), the third – the formation of

Continuation of Table 1

features. Mans emotional perception of the world and its role in artistic composition		space in which individual zones are located freely and penetrate each other. The task is performed in two stages. At the I stage – student performs a sketch in the form of axonometric images variants of the future deep-spatial composition model. The sketch should reflect the basic planning decision; identify the center of the composition, the geometric nature of the shielding elements and the degree of closure of the deep-spatial composition. At the II stage – the model according to the sketch coordinated with the teacher is carried out. The model is placed on a rigid sub-model made of cardboard, tinted cardboard, etc. The size of the model of the model should not exceed 17 sm in height, 30 sm in depth or length, up to 20 sm in width. The choice of color solution is agreed by each student separately with the teacher
Independent work	11	Execution of the drawing-scan of the layout in a certain scale. Execution of details. Joining parts. (A4 format)
Practical lesson Theme 2.2.3 Study of compositional analysis features of the architectural environment city objects. Interior type features of deep-spatial compositions	2	***Task 19 "Analysis of examples of deep-spatial composition (optionally)"*** The paper sheet graphically depicts the deep-spatial compositions (DSC) of geometric shapes, which reflect its basic properties (Fig. 15): 1. DSC with symmetry about the axis; 2. DSC with asymmetry about the axis; 3. DSC with symmetry relative to the center; 4. DSC compositional center is expressed by a group of elements; 5. DSC composition center is expressed by a large volume; 6. DSC with an emphasis on the compositional center (color, shape, etc.); 7. DSC is solved using rhythm; 8. DSC is solved using the contrast of volumes; 9. DSC with a composite center outside the volume; 10. DSC using a specific volume; 11. DSC, which figuratively reveals any topic; The task is performed on 2 A4 format paper sheet by hand graphics using liners of different thicknesses, gel pens, felt-tip pens, colored pencils, etc

Continuation of Table 1

1	2	3
Independent work	4	Execution of the graphic part of the analysis of the example of deep-spatial composition in architecture. Graphic design of the task (format A4)
Content module 2.3 Fundamentals of interior composition.		
Practical lesson Theme 2.3.1 Study of the main interiors stylistic features of the composition and means of their revealing	3	***Task 20 "Design a sketch of the living space interior using a certain style"*** Interior design includes the development of sketches of the room layout, the functional distribution of the interior environment, the choice of style, selection of furniture, lighting, decorative elements. It is necessary to know: the main historically formed artistic and stylistic directions of interior design, and also modern directions of the decision of art and design, formation on their basis of stylistics of an interior; modern world trends in interior design. Be able to: determine the main features of style trends and artistic trends in interior design. Search, selection and coordination with the teacher the plan of living space (optionally) is carried out. Analysis of design features of the room. Development of functional zoning of the room with the location of certain furniture. Careful drawing with definition of all sizes is carried out. The furniture plan should clearly match the functionality with the perimeters and style of the living space. Search for a stylistic solution of the living space (optionally), analysis of analogues of the stylistic solution. A number of sketches solution of the room are made. Coordination with the teacher and the choice of the final version. Development of the final version of the task, its color scheme, selection of finishing materials, the necessary equipment that corresponds to the stylistic solution of the interior and their schematic layout (Fig. 16). The task is performed on A3 format paper sheet by hand graphics using liners of different thicknesses, gel pens, felt-tip pens, colored pencils, watercolors, etc. It is also possible to perform a task in computer technology

End of Table 1

1	2	3
Independent work	3	Search for prototypess of interiors in a certain style (optional). Graphic and color design of the drawing (A3 format)
Practical lesson Theme 2.3.2 Consideration of the ergonomics basic principles in interior design. Definition of interiors general ergonomic schemes	2	***Task 21 "Analysis of ergonomic conditions for using a pre-designed interior sketch"*** On the basis of the previously created sketch of an interior (task 20) the analysis of ergonomic conditions on analytical schemes examples of the person activity realization in the developed interior is carried out. The interior equipment should be selected and designed in such way that the room is as comfortable as possible and corresponds to its functional purpose (Fig. 17). The task is performed on A3 format paper sheet by hand graphics using pencils, liners of different thicknesses. It is also possible to perform a task in computer technology. (format A 3).
Independent work	2	Study of basic ergonomic requirements for living spaces. Apply these requirements in the task. The final design of the task should be performed on A3 format paper
Final control	15	
Total hours	90	3 credits

4 QUESTIONS FOR INDEPENDENT PREPARATION ACCORDING TO THE CONTENT MODULES

MODULE 1

QUESTIONS FOR INDEPENDENT PREPARATION FOR CM 1.1

1. Justify the concept of symmetry.
2. Justify the concept of spiral symmetry.
3. Describe the transfer symmetry concept.
4. Justify the type of symmetry of the object. Name the known types of symmetry.
5. Justify the concept of disymmetry.
6. Justify the concept of asymmetry.
7. Describe the compositional properties of symmetry and asymmetry.
8. Justify the emotional assessments of the given architectural structures and prove your decision correctness.

9. Justify the following concepts: identity, contrast and nuance.
10. Describe the concept of the form size.
11. Justify the concept of dimensionality and geometry of form.
12. Justify the concept of massiveness and spaciousness of form.
13. Describe the types of metric patterns.
14. Describe the types of rhythmic patterns.
15. Analyze the known objective properties of architectural forms.
16. Justify the concept of metro-rhythmic means in the object composition forming.

QUESTIONS FOR INDEPENDENT PREPARATION FOR CM 1.2

1. Justify the concept of proportion.
2. Describe the ancient proportional systems. Consider examples of the these systems using in existing ancient buildings (Egyptian triangle, golden section and module).
3. Justify the scale of architectural objects.
4. Consider the personalities of the historical and contemporary objects scale.
5. Justify the concept of tectonics in architecture.
6. Justify the tectonic structure and explain its features (optionally).
7. Describe the modern tectonic structures known to you.
8. Compare historical tectonic structures examples and explain their features.
9. Justify modern tectonic structures and explain their features.
10. Describe the shaping properties of color (hot and cold colors, saturation, lightness, etc.).
11. Describe the concepts of chromatic and achromatic circles.
12. Describe the concept of color in architecture.

QUESTIONS FOR INDEPENDENT PREPARATION FOR CM 1.3

1. Describe the concept of frontal composition.
2. Describe the concept of volumaze (three-dimensional) composition.
3. Describe the concept of deep-spatial composition.
4. Analyze the means of frontal composition detecting (articulation, silhouette, etc.).
5. Describe the qualities of the frontal composition.
6. Justify the concept of texture.
7. How does the texture contribute to detection of architectural form tectonics?
8. Describe the concept of chiaroscuro characteristic of the form.
9. Describe the use of color in the frontal composition.

MODULE 2

QUESTIONS FOR INDEPENDENT PREPARATION FOR CM 2.1

1. Describe the qualities of a volumaze (three-dimensional) composition.

2. Analyze the means of detecting static volumaze (three-dimensional) composition.

3. Analyze the means of detecting a dynamic volumaze (three-dimensional) composition.

4. Justify the concept of artistic image in architecture.

5. Describe the structure of an architectural object artistic image.

6. Justify the concept of symbolism in architecture.

7. Analyze the semantic component of the architectural image.

8. Justify the concept of semantics in architecture.

9. Describe the direction of architecture – metabolism.

10. Describe the direction of architecture – organic architecture.

11. Describe the direction of architecture – bionic architecture.

12. Describe the direction of architecture – "green" architecture.

13. Justify the concept of formalism.

14. Describe the concept of combinatorics.

15. Justify the concept of combinatorial formation.

16. Analyze the combinatorial element based on the bioprototype.

QUESTIONS FOR INDEPENDENT PREPARATION FOR CM 2.2

1. Describe the concept of deep-spatial composition.

2. Analyze the means of detecting the deep-spatial composition.

3. Describe the qualities of the deep-spatial composition of the closed type.

4. Describe the qualities of the deep-spatial composition semi-closed type.

5. Analyze the types of deep-spatial composition.

6. Justify the concept of architectural ensemble.

7. Describe the principles of ensemble formation.

8. Justify the concept of visual perception in the architectural compositions.

9. Justify the concept of the architectural environment dominant.

10. Justify the concept of the architectural environment accent.

11. Justify the concept of pareidolia.

12. Justify the content of the theory of geons.

QUESTIONS FOR INDEPENDENT PREPARATION FOR CM 2.3

1. Describe the main types of interiors compositional schemes.

2. Describe the compositional scheme – corridor.

3. Describe the compositional scheme – centric.

4. Describe the compositional scheme – enfilade.

5. Describe the compositional scheme – mixed.

6. Describe the compositional scheme – the hall.

7. Describe the compositional scheme – sectional.

8. Identify the main styles in interior design.

9. Identify the means of identifying stylistic affiliation.

10. Consider the ergonomic basics of interior design.

11. Describe the general ergonomic schemes of interiors.

5 MEANS OF CONTROL AND STRUCTURE OF CREDIT

For intermediate and final control of students' knowledge are provided (Table 2):

– according to Module 1 – presentation of graphic works provided by practical tasks and independent work, according to questions to each content module;

– on Module 2 – presentation of the graphic works provided by practical tasks and independent work, according to the questions to each content module.

Table 2 – Types and means of control

Types and means of control (testing, tests, individual tasks, etc.)	Points, %
MODULE 1 Current control on content modules	
CM 1 Graphical tasks	20
CM 2 Graphical tasks	25
CM 3 Graphical tasks	25
Final control on MODULE 1 (presentation of tasks)	30
Total for module 1	100
MODULE 1 Current control on content modules	
CM 1 Graphical tasks	25
CM 2 Graphical tasks	30
CM 3 Graphical tasks	15
Final control on MODULE 2 (presentation of tasks)	30
Total for module 2	100

Methods of control and the procedure for evaluating learning outcomes

Monitoring and evaluation of learning outcomes includes:

current control – design of albums of graphic tasks on the subject of content modules, performed during practical classes and independent work (table 3);

final control – in the form of a written exam.

Types of tasks, means of control and the maximum number of points.

Table 3 – Types of practical tasks and distribution of points

Types of tasks and means of control	Distribution of points
1	2
MODULE 1	
Content module 1.1	**20**
Practical task № 1 “Greeting” (A4 format)	1
Practical task № 2 “Image from numbers” (graphic control, A4 format)	1
Practical task № 3 “Metrical rows” (graphic control, A4 format)	2
Practical task № 4 “Rhythmical rows” (graphic control, A4 format)	2
Practical task № 5 “Plane composition with symmetrical and asymmetrical construction and statics or dynamics signs” (graphic control, A4 format)	4
Independent work № 1 Revision and design of the task “Greeting” (graphic control, A4 format)	2
Independent work № 2 Revision and design of the task “Image from numbers” (graphic control, A4 format)	2
Independent work № 3 Study of types of metric regularities. Revision and design of the task “Metrical rows” (graphic control, A4 format)	2
Independent work № 4 Study of types of rhythmic regularities. Revision and design of the task “Rhythmical rows” (graphic control, A4 format)	2
Independent work № 5 Layout and design “Plane composition with symmetrical and asymmetrical construction and statics or dynamics signs” (graphic control, A4 format)	2
Content module 1.2	**25**
Practical task № 6 “Analysis of an architectural object with the definition of compositional features” (graphic control, A4 format)	2
Practical task № 7 “Examples of tectonics of historical and modern architectural objects (optionally)” (graphic control, A4 format)	1
Practical task № 8 “Construction of chromatic and achromatic circles” (graphic control, A4 format)	1
Practical task № 9 “Revealing of color saturation” (graphic control, A4 format)	1
Practical task № 10 “Geometric planar composition with color using” (graphic control, A4 format)	5
Independent work № 6 Revision and design of the task № 6 (graphic control, A4 format)	3
Independent work № 7 “Analysis of historical and modern tectonic systems features. Graphic design of the task” (graphic control, A4 format)	1
Independent work № 8 “Study of the color main properties in architectural composition. Color design of the task” (graphic control, A4 format)	3

Continuation of Table 3

1	2
Independent work № 9 “Choice of chromatic colors to saturation revealing. Task color design” (graphic control, A4 format)	3
Independent work № 10 “Layout of the task in the format. Task graphic and color design” (graphic control, A4 format)	5
Content module 1.3	**25**
Practical task № 11 “Examples of the main types of composition in architecture: frontal, volumaze, high-altitude, deep-spatial” (graphic control, A4 format)	2
Practical task № 12 “Examples of the application of textures in the architectural surfaces detection” (graphic control, A4 format).	2
Practical task № 13 “Plane model of the frontal formal composition” (model dimensions 300 mm × 150 mm, control by modeling means)	7
Independent work № 11 Study of the main types of architectural composition. Task graphic design “Examples of the main types of composition in architecture: frontal, volumaze, high-altitude, deep-spatial” (graphic control, A4 format)	3
Independent work № 12 Graphic design of the task “Examples of the application of textures in the architectural surfaces detection” (graphic control, A4 format)	3
Independent work № 13 “Analysis of the frontal composition properties and design the layout according to your own sketch” (graphic control, A4 format)	8
Final control (exam)	**30**
Theoretical question 1	5
Theoretical question 2	10
Practical question 3 (graphic composition model designing)	15
TOTAL FOR THE MODULE 1	**100**
MODULE 2	
Content module 2.1	**25**
Practical task № 14 “Examples of the main types of volumaze composition in architecture” (graphic control, A4 format)	1
Practical task № 15 “Model of a formal volumize composition” (model dimensions 200 mm × 150 mm × 200 mm, control by modeling means)	7
Practical task № 16 “Composition using bionics methods» (graphic control, A4 format)	3
Independent work № 14 Design of the task “Examples of the main types of volumaze composition in architecture”	1
Independent work № 15 Make a drawing-scan layout of a volumaze composition in a certain scale. Execution of details. Joining parts (layout size 200 mm × 150 mm × 200 mm, control by means of modeling)	8

End of table 3

1	2
Independent work № 16 Analysis of examples of bionic architecture. Creating a sketch of an architectural object based on a prototype of a bionic form. Layout and graphic design of the task "Composition using the bionics methods" (graphic control, A4 format)	5
Content module 2.2	**30**
Practical task № 17 "Examples of different types of deep-spatial interior type compositions in architecture" (open, semi-closed, closed) (graphic control, A4 format)	1
Practical task № 18 "Model of deep-spatial composition" (graphic control, A4 format)	6
Practical task № 19 «Analysis of examples of depth-spatial composition (optionally)» (graphic control, A4 format).	3
Independent work № 17 Task graphic design "Examples of different types of deep-spatial compositions in architecture" (graphic control, A4 format)	1
Independent work № 18 Make a drawing-scan layout of a volumaze composition in a certain scale. Execution of details. Joining parts. (A4 format)	11
Independent work № 19 Performing an analysis of an example of depth-spatial composition in architecture. Graphic design of the task. (graphic control, A4 format)	8
Content module 2.3	**15**
Practical task № 20 "Design a sketch of the living space interior using a certain style" (graphic control, A3 format)	3
Practical task № 21 "Analysis of ergonomic conditions for using a pre-designed interior sketch" (graphic control, A3 format)	2
Independent work № 20 Search for analogues of interiors of a certain style (optional). Graphic and color design of drawings (graphic control, A3 format)	7
Independent work № 21 Study of basic ergonomic requirements for living space. Apply these requirements in task. The final design of the task (graphic control, A3 format)	3
Final control (exam)	**30**
Theoretical question 1	5
Theoretical question 1	10
Practical question 3 (graphic composition model designing)	15
TOTAL FOR THE MODULE 2	**100**

Table 4 – Grading scale

The sum of points for all types of educational activities	Score on a national scale (for exam)
90–100	Excellent
82–89	Good
74–81	
64–73	Satisfactory
60–63	
35–59	Unsatisfactory with the possibility of retaking
0–34	Unsatisfactory with mandatory restudy of the discipline

The discrepancy of points in the assessment is due to the quality of tasks, which take into account the degree of completeness of the theme, the quality of graphic design of tasks or models, the presence of an interesting creative idea.

LIST OF RECOMMENDED SOURCES

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3. Шкляр С. П. Основи формування естетично–художніх концепцій в архітектурі і мистецтві: Конспект лекцій (для студентів 2 курсу денної форми навчання спеціальності 191 – Архітектура та містобудування). / С. П. Шкляр. – 2018. [Електронний ресурс] https://eprints.kname.edu.ua/50035/

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8. Методичні вказівки щодо організації самостійної роботи студентів з дисципліни Основи композиції спеціальності 5.02020701 «Дизайн» / Укл. Таішева М. М. Чернігівський промислово–економічний коледж Київського національного університету технологій та дизайну. http://chpek.com.ua/wp–content/uploads/2018/04/5–самостійна–робота–композиція.pdf

9. Методичні рекомендації до самостійної роботи з навчальної дисципліни «Основи композиції та дизайну» для студентів напряму підготовки 6.051501 «Видавничо–поліграфічна справа» всіх форм навчання / укл.

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APPENDIX A
Examples of tasks

Examples of 1st year students works from the ADFA faculty 2019–2020.

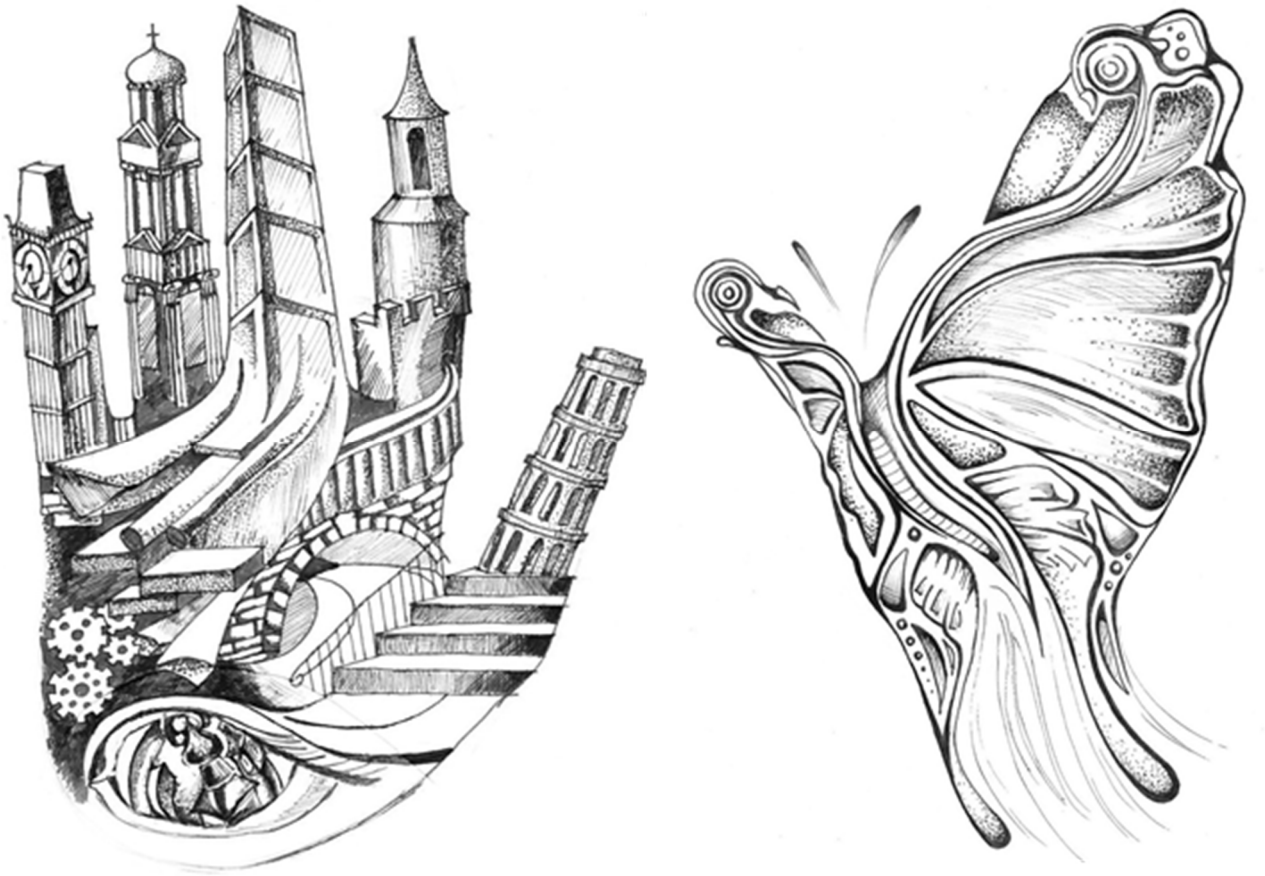


Figure 1 – Greetings

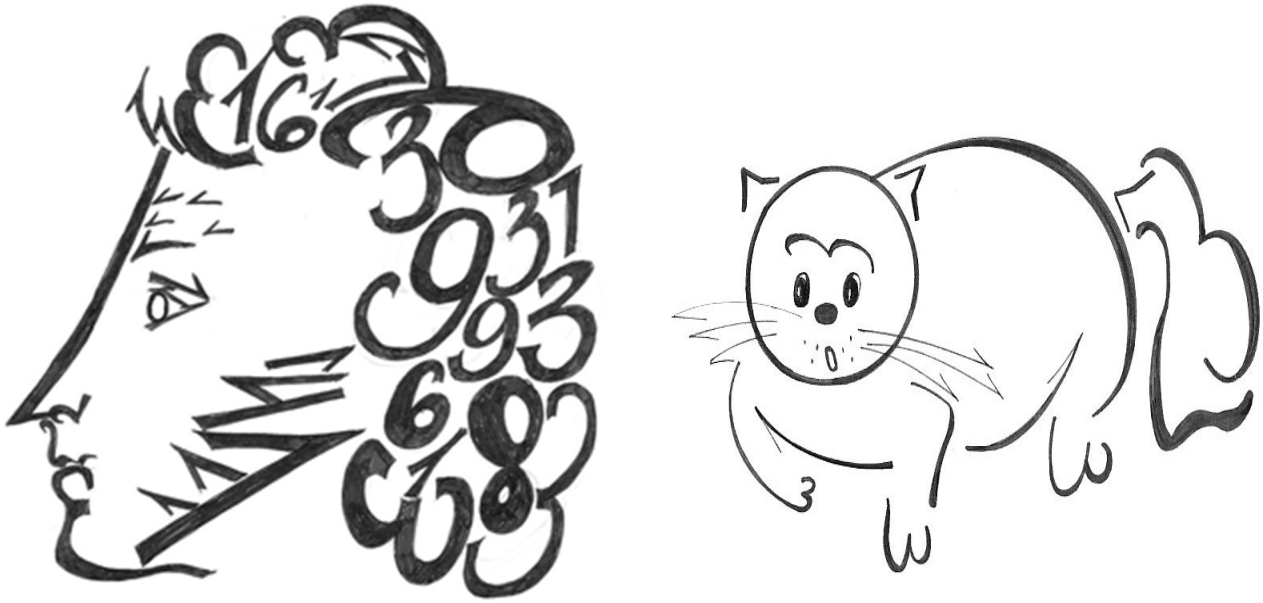


Figure 2 – Image from numbers

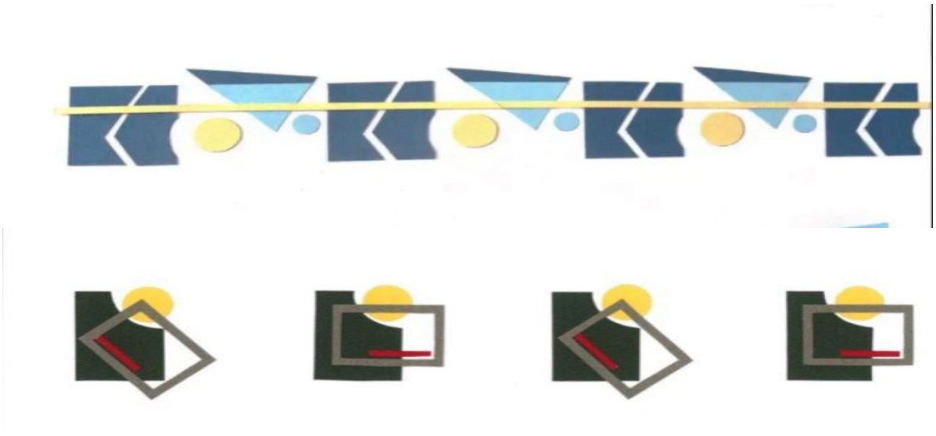


Figure 3 – Metrical rows

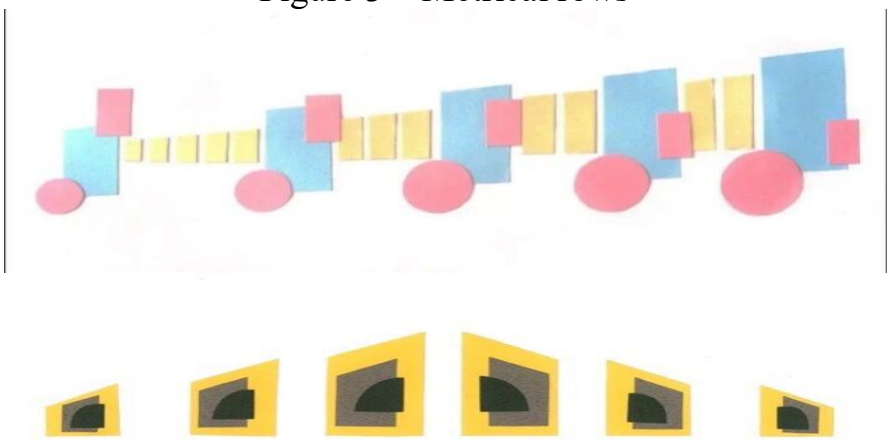


Figure 4 – Rhythmical rows

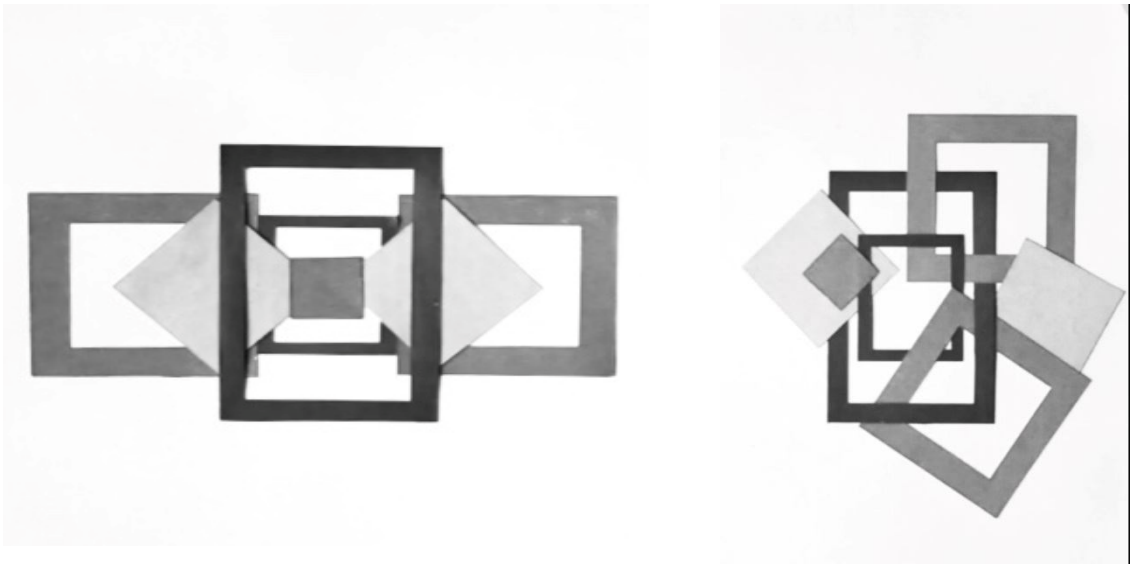


Figure 5 – Plane composition with symmetrical and asymmetrical construction and statics or dynamics signs

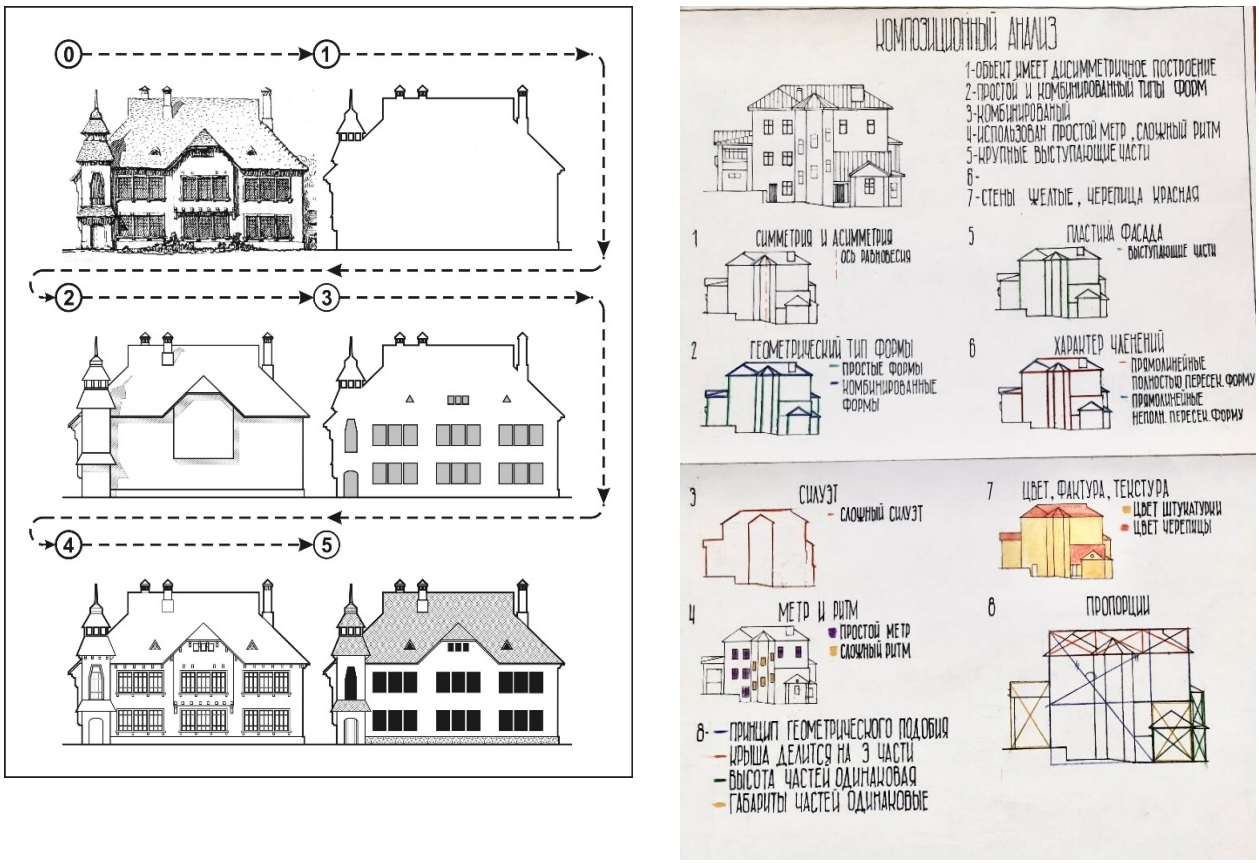
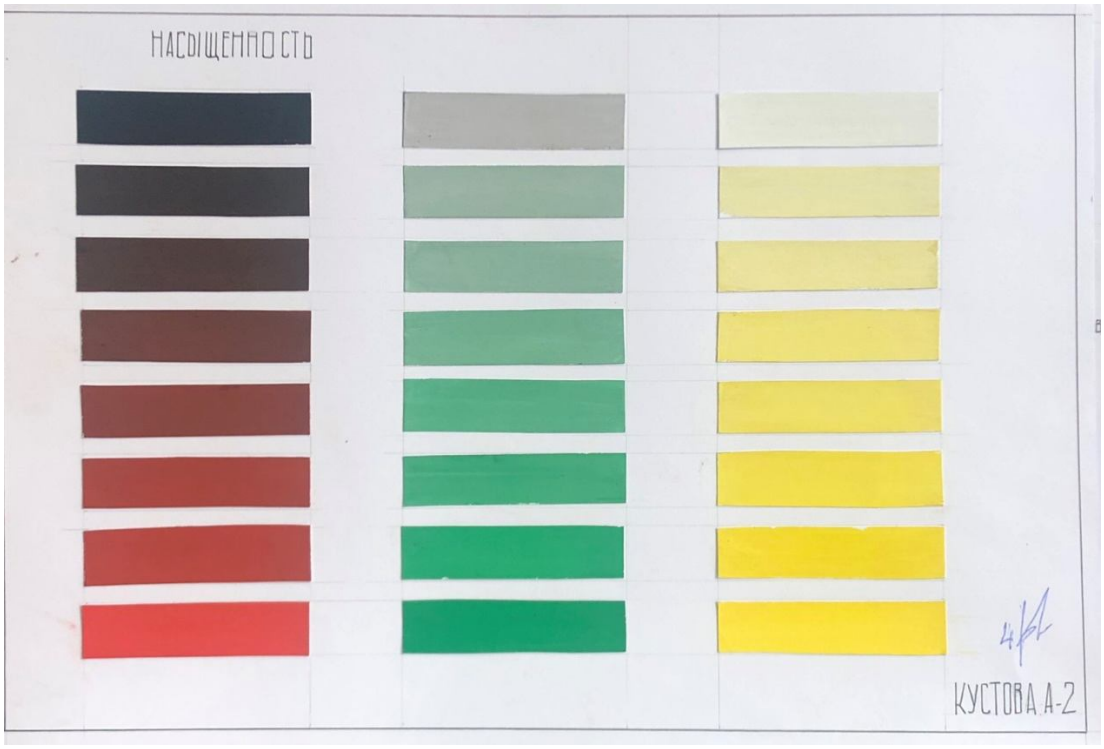


Figure 6 – Analysis of an architectural object with the definition of compositional features

Figure 7 – Construction of chromatic and achromatic circles



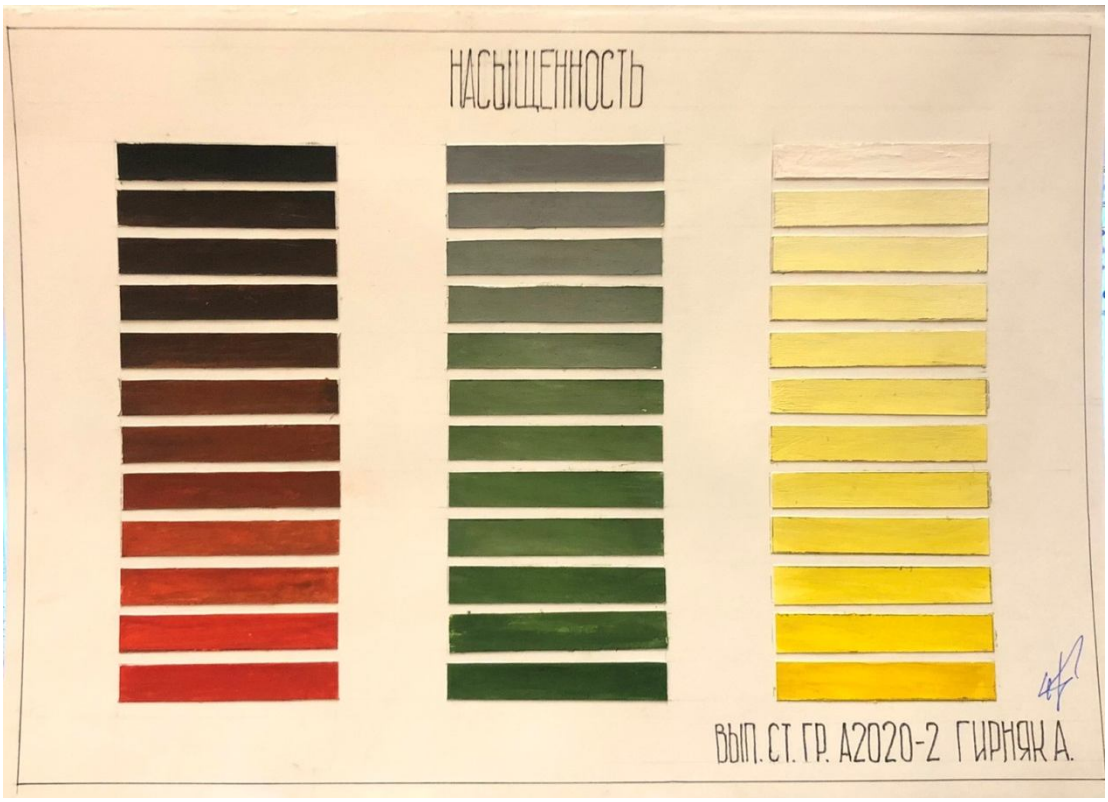


Figure 8 – Revealing of color saturation

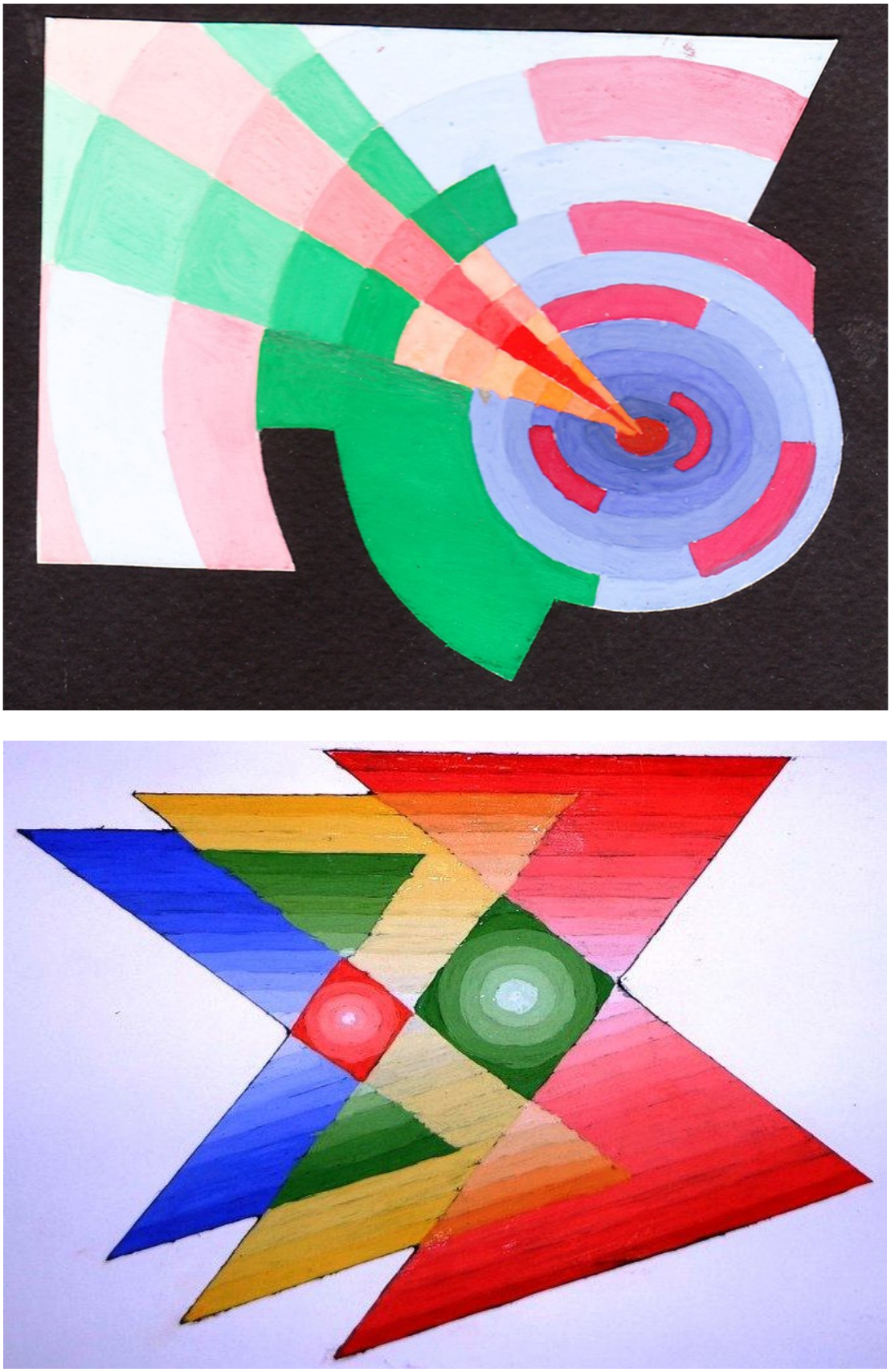


Figure 9 – Geometric planar composition with color using

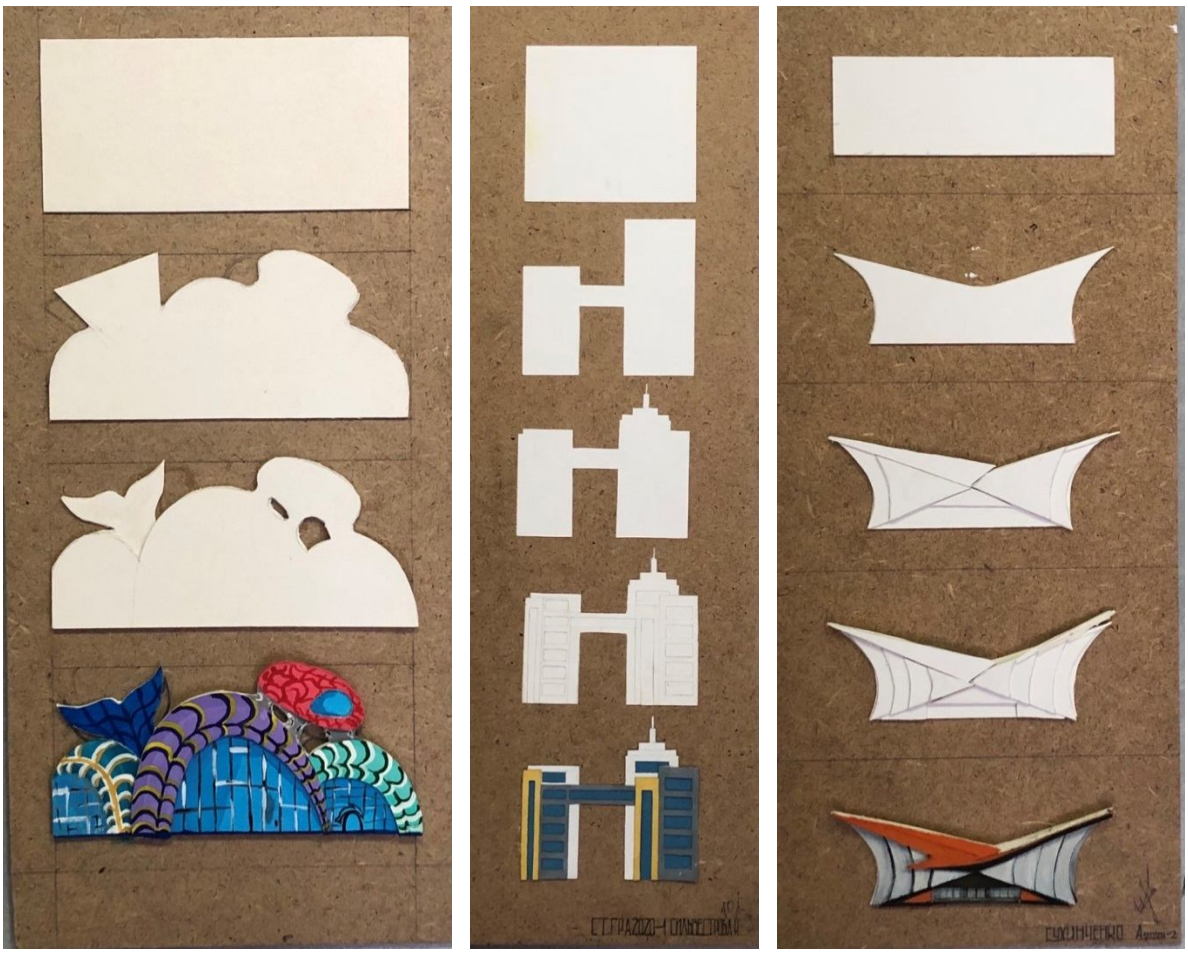


Figure 10 – Plane model of the frontal formal compositions

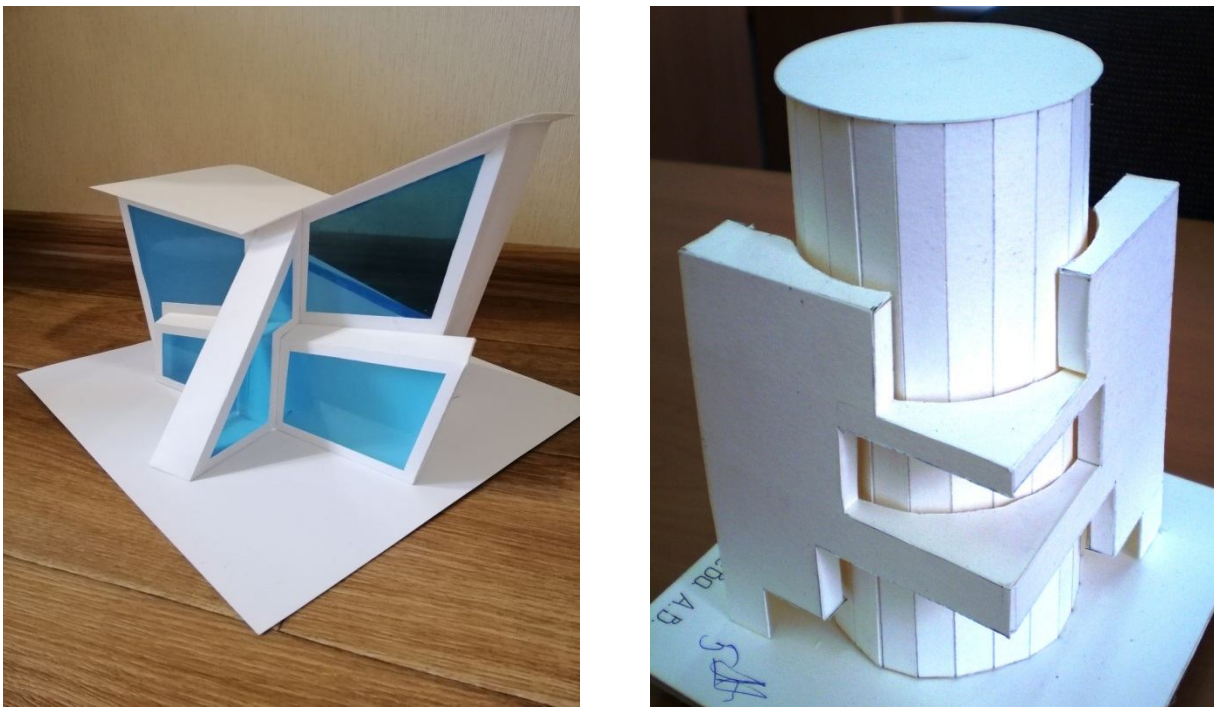
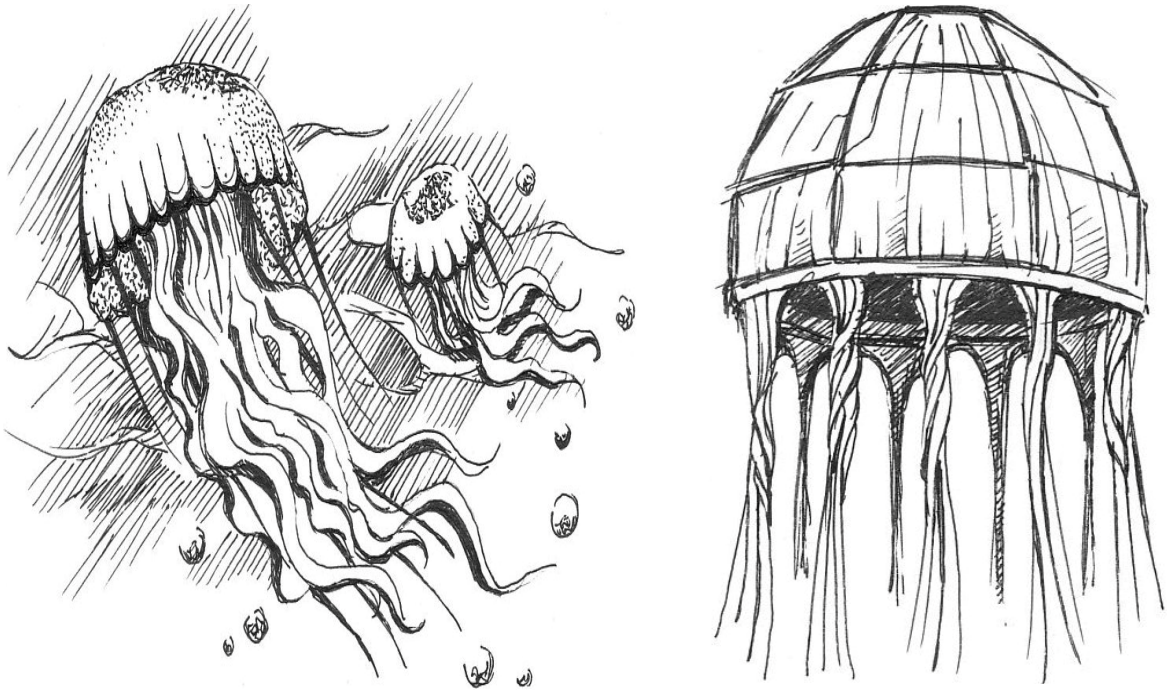


Figure 11 – Model of a formal three-dimensional composition



Transformation stages of natural form into an architectural one

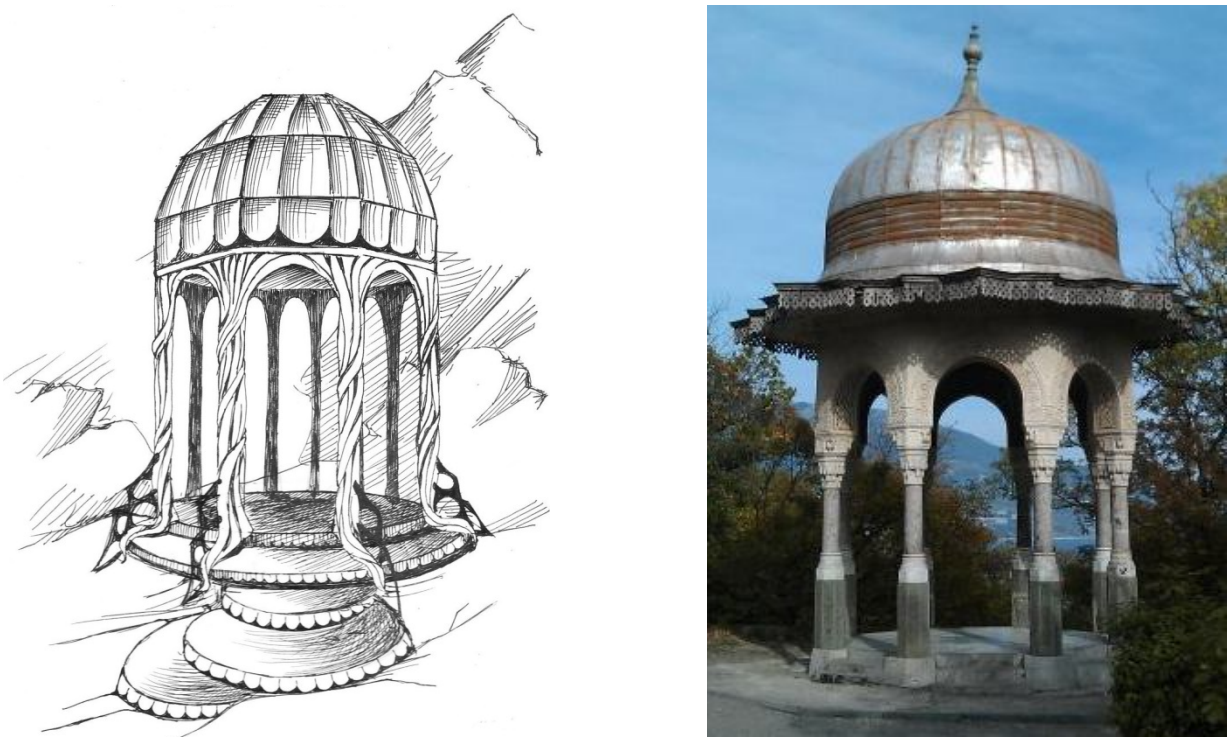
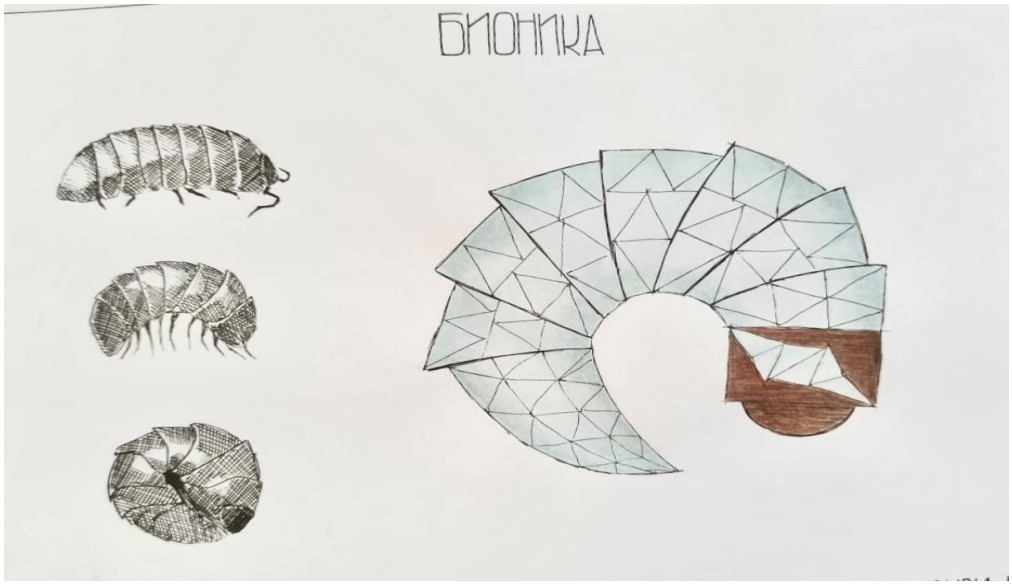
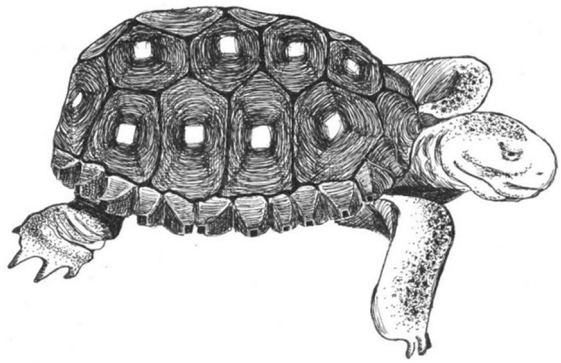
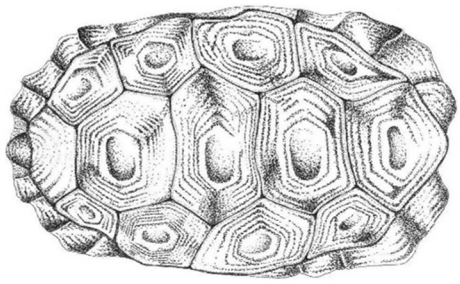


Figure 12 – Composition using bionics methods

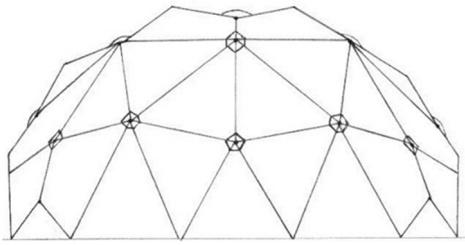




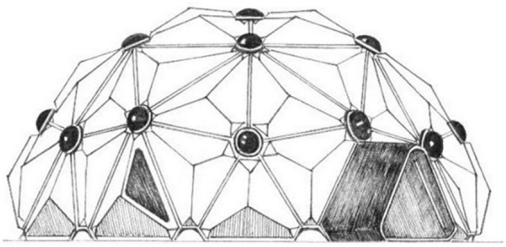
The natural prototype – a turtle



I stage of stylization. The structure of the armor as the basis for the constructive scheme of a conventional architectural structure

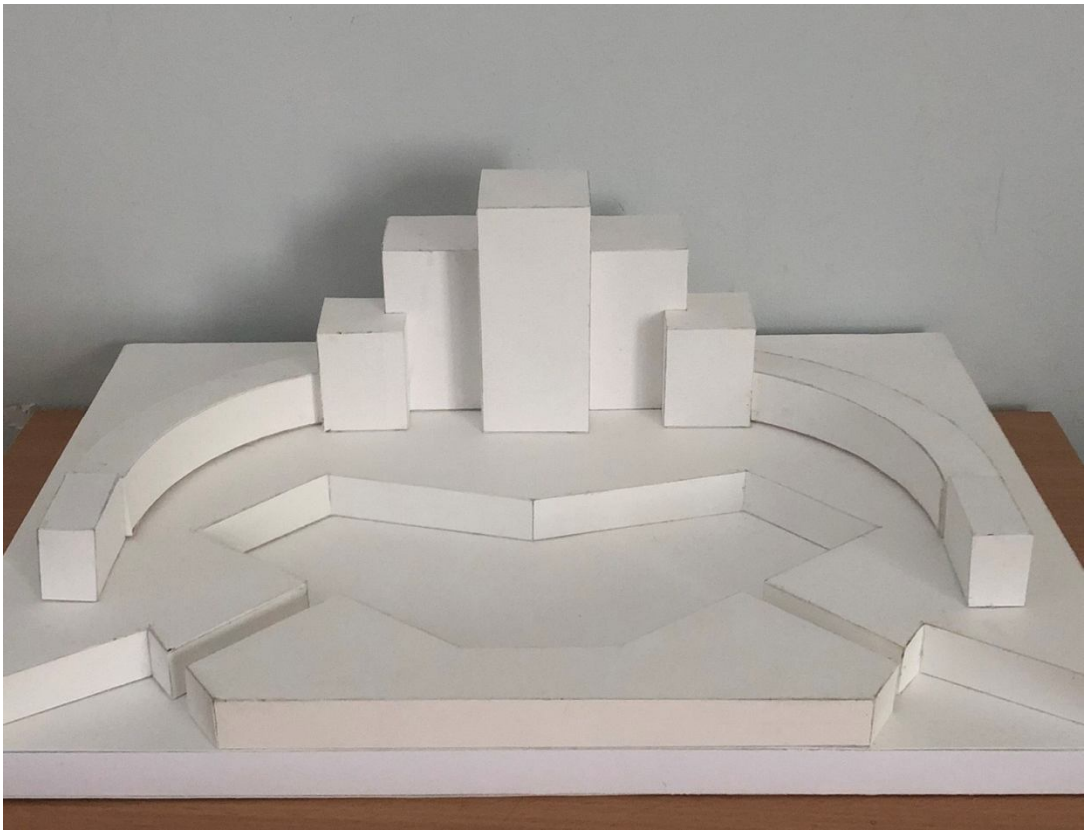


II stage of stylization. Transformation of the selected geometric shape



The final view of the conventional architectural structure

Figure 13 – An architectural object based on a bionic prototype



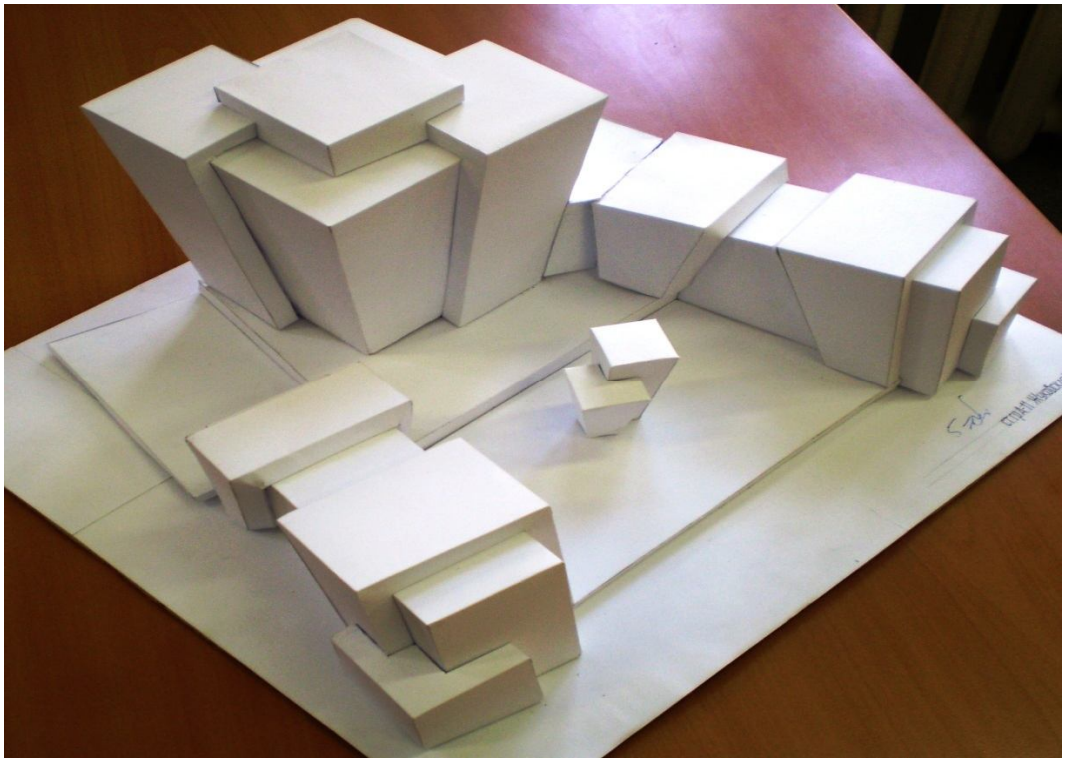


Figure 14 – Model of deep-spatial composition

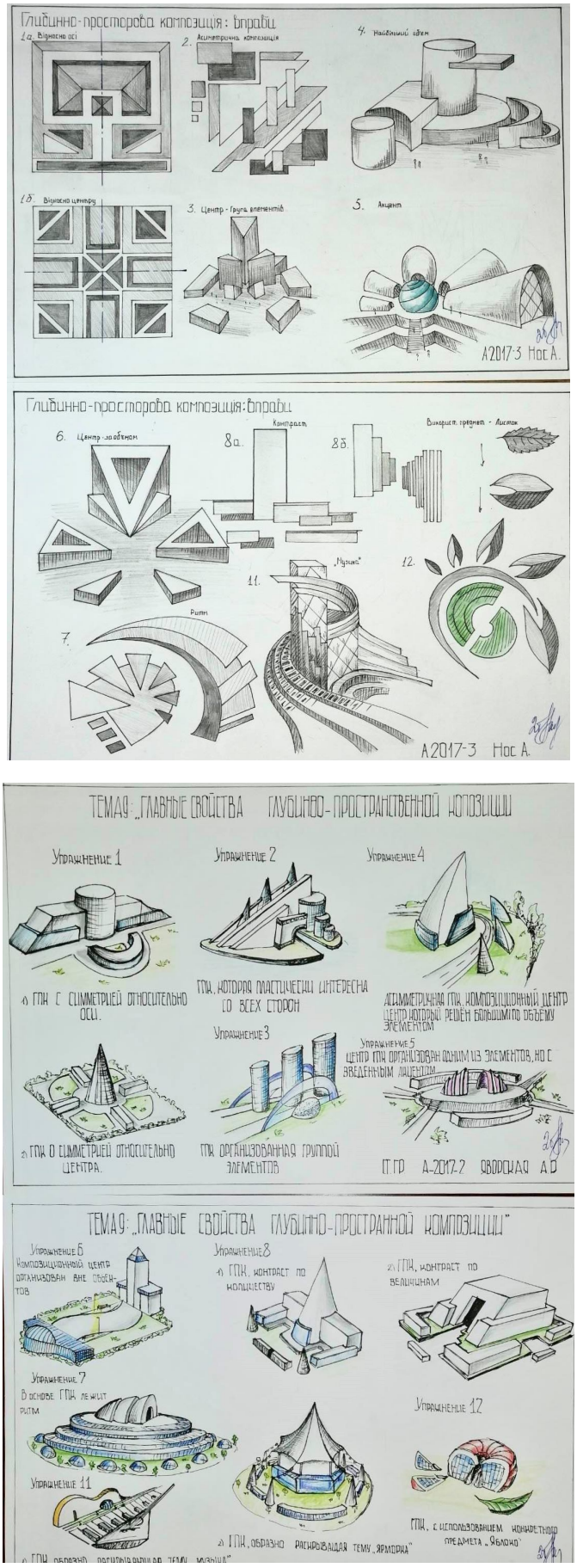
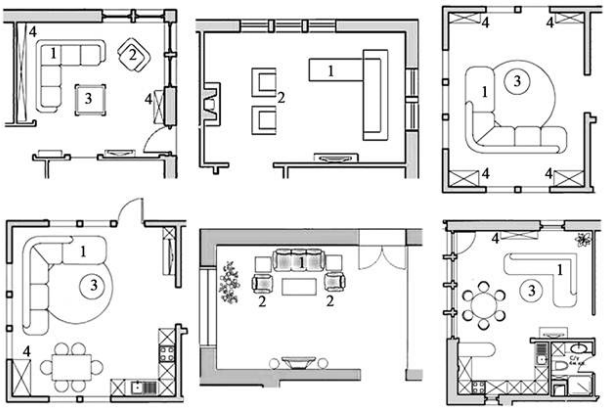


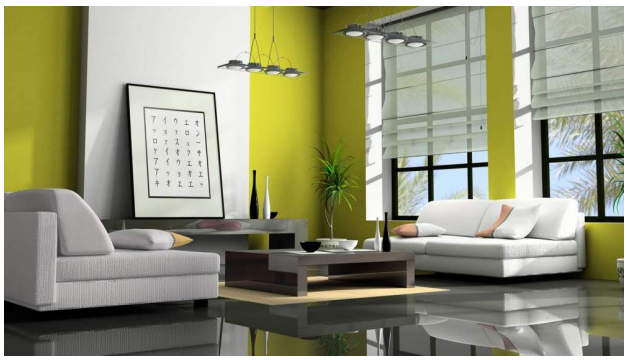
Figure 15 – Analysis of examples of depth-spatial composition (optionally)

Interior sketch of living rooms (options)

Living room interiors with certain styles

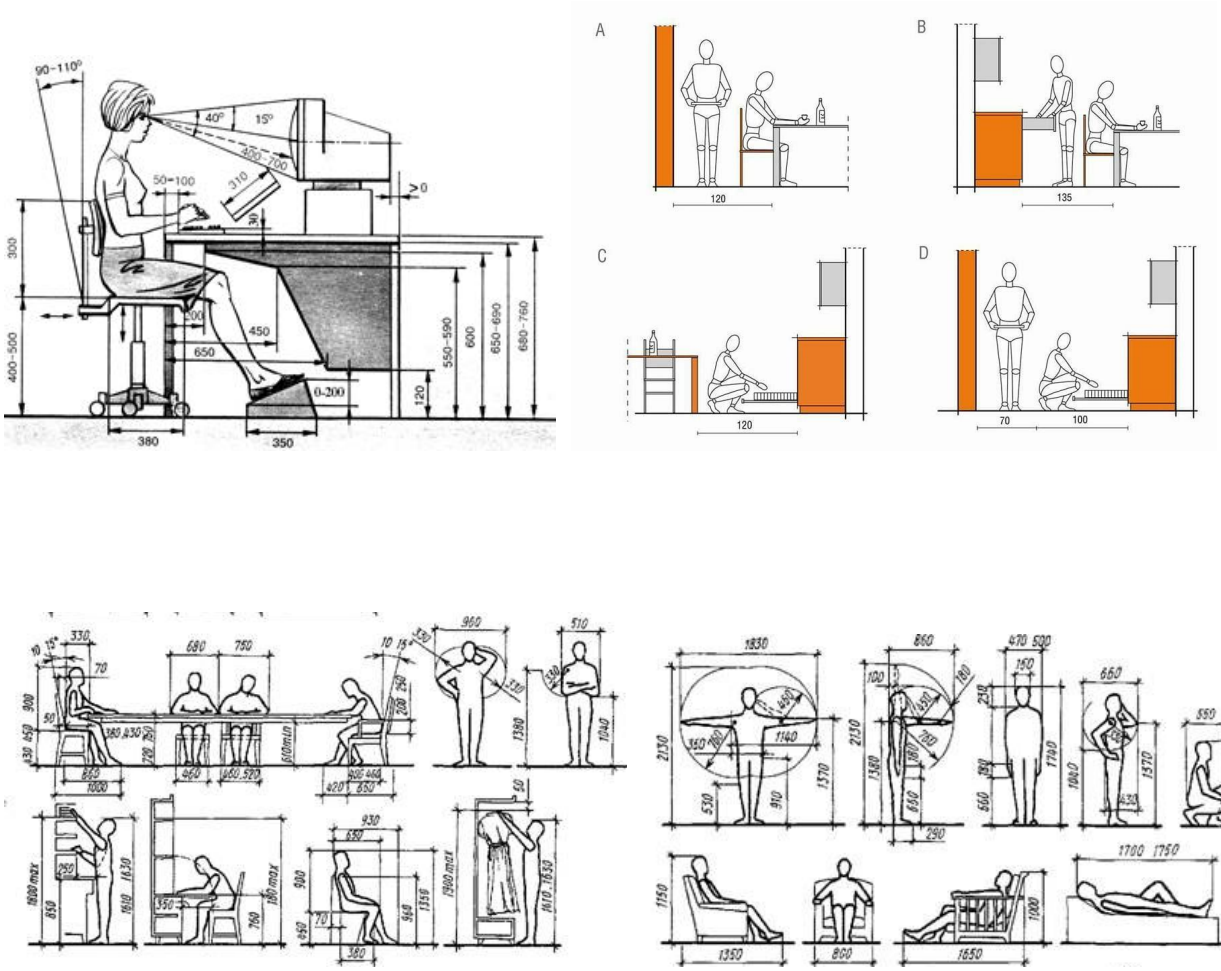


Functional zoning

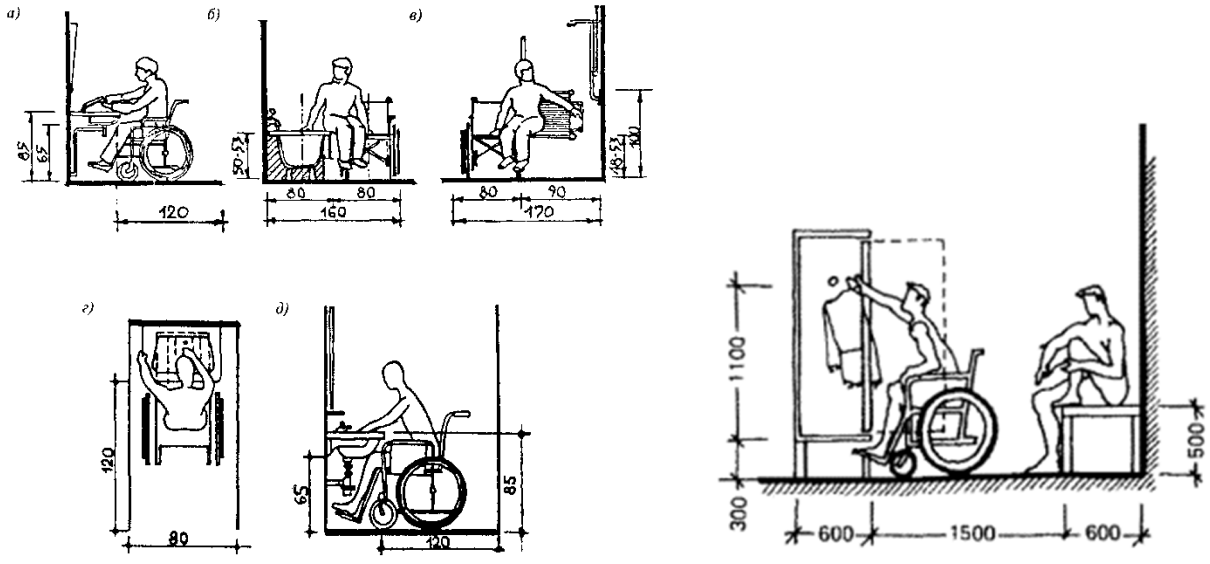


Analogues of interiors of a certain style

Figure 16 – Development of a sketch of the interior of a living space using a certain style



Ergonomic requirements for living spaces



Ergonomic requirements for a person with disabilities

Figure 17 – Analysis of ergonomic conditions for using a pre-designed interior sketch

Виробничо-практичне видання

Методичні рекомендації
до практичних занять та самостійної роботи
з дисципліни

«АРХІТЕКТУРНА КОМПОЗИЦІЯ»

(для іноземних студентів 1 курсу денної форми навчання спеціальності 191 – Архітектура та містобудування)
(Англ. мовою)

Укладачі: **БОГДАНОВА** Лариса Олегівна,
КОРОВКІНА Ганна Аркадієвна ,
БРОННІКОВА Соф'я Степанівна,
МАРТИШОВА Лариса Сергіївна

Відповідальний за випуск *О. А. Попова*
За авторською редакцією
Комп'ютерне верстання *С. С. Броннікова*

План 2021, поз. 94М

Підп. до друку 03.03.2021. Формат 60 × 84/16.
Друк на ризографі. Ум. друк. арк.2,5
Тираж 50 пр. Зам. №

Видавець і виготовлювач:
Харківський національний університет
міського господарства імені О. М. Бекетова,
вул. Маршала Бажанова, 17, Харків, 61002.
Електронна адреса: rectorat@kname.edu.ua
Свідоцтво суб'єкта видавничої справи:
ДК 5328 від 11.04.2017.