**7M01403 ARTISTIC WORK, GRAPHICS AND DESIGN**

**1. OPTIONAL COMPONENTS OF THE CYCLE OF CORE COURSES**

*Optional component 1*

*Course:* **Methods and Technologies of Scientific and Educational Research**
*Intensity of the Course:* 5 academic credits
*Module Code:* SRM-2
*Module Name:* Scientific Research Methodology
*Prerequisites:* Literature analysis, theoretical and conceptual frameworks in the field of social pedagog
*Purpose:* to use methods of scientific research in artistic and pedagogical education, to develop skills for quality analysis.
*Short Description:* Organization of scientific pedagogical research in the field of professional pedagogy. Research methods in professional pedagogy. Methods used to study specific issues of professional pedagogy. Collection and generalization of research results. Registration and dissemination of the results of pedagogical research
*Learning Outcomes in EP (LOP):*
LO2 – He has theoretical and methodological foundations for the development of the science of pedagogy and psychology, management processes and teaching methods, the essence and content of psychological and pedagogical research;
LO3 – Knows the content and goals of the main directions of research work in educational institutions and management functions in specialized organizations;
LO6 – Possesses knowledge of pedagogical art and modern pedagogical methods and technology necessary for the effective organization of the educational process in the field of artistic creativity based on the updated content of education;
LO8 – Plans, organizes experimental research works, determines approaches to solving the tasks of a scientific project and develops a program and methodology; carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization;
*Learning Outcomes in Course (LOC):*
LOC 1 - knows about scientific research work and its types;
LOC 2 - can apply theory, principles, and teaching methods in scientific activities;
LOC 3 - understands the problems of modern science and methodological foundations;
LOC 4 - the ability to develop theoretical and applied models of the processes, phenomena, and objects being studied, related to the sphere of professional activity.
LOC 5 - the ability to work with scientific, specialized, and periodical literature in the field of scientific research; scientific methods of cognition in professional activities;
*Post requisites:* Methodology of Scientific Research in Artistic and Educational Activities

*Optional component 1*

*Course:* **Methodological Foundations of Kazakh Ethnopedagogics**
*Intensity of the Course:* 5 academic credits
*Module Code:* SRM-2
*Module Name:* Scientific Research Methodology
*Prerequisites:* Literature analysis, theoretical and conceptual frameworks in the field of social pedagogy
*Purpose to teach how to evaluate the main features of the impact of intercultural relations on the development of modern Kazakh ethnopedagogy from a new perspective, differentiating them in terms of national knowledge.*
*Short Description:* Methodology of pedagogy - as the orienting basis of Kazakh ethnopedagogy. The significance of the theory of ethnos in the content-terminological substantiation of Kazakh ethnopedagogy. Ethnopsychology in the cognition of the peculiarities of the Kazakhs, the role in ethnopedagogy. The essence of Kazakh philosophy in the ethno-pedagogical worldview. Kazakh ethnopedagogy as an integral part of pedagogical science. Ethnopedagogy as a special scientific discipline. The national system of education. Kazakh ethnopedagogy as an independent academic discipline.
*Learning Outcomes in EP (LOP):*
LOP 5 - Uses methodological and conceptual knowledge by conducting scientific research in the development of new knowledge; has the skills to create technological documentation, including the introduction of modern computer technologies, design, application in scientific and educational activities;
LOP 6 - Has knowledge of pedagogical art and modern pedagogical methods and technology necessary for the effective organization of the educational process in the field of artistic creativity based on the updated content of education;
LOP 7 - Knows the classification of types of art, owns the conceptual apparatus that determines the specifics of art in various epochs of world culture; teaching the values of the social system, manifested in a special form of world and national culture; has knowledge of current trends and trends in the field of visual art and design to create art projects that meet the requirements of the modern market;
*Learning Outcomes in Course (LOC):*

LOC 1 - knows the methodological and theoretical foundations of the subject teaching methodology, becomes familiar with the national model of the educational process;

LOC 2 - respects the spiritual values of different periods and peoples;

LOC 3 - studies advanced pedagogical practices and teaching methods of the traditions, religion, history, and culture of their people;

LOC 4 - cognitive, informational, intellectual, strategic, sociolinguistic, and cultural competencies are formed among representatives of different nationalities.

LOC 5 - the structure of national traditions is studied and discussed, and their methods of use in the educational process are determined.

*Post-requirements:* Scientific and Methodological Foundations of Modern Art and Pedagogical Education

*Optional component 2*

*Course:* **Methodology of Scientific Research in Artistic and Educational Activities**

*Intensity of the Course:* 5 academic credits

*Module Code:* SRM-2

*Module Name:* Scientific Research Methodology

*Prerequisites:* Methods and Technologies of Scientific and Educational Research

*Purpose:* providing master's degree students with in-depth pedagogical knowledge in the field of methodology of scientific research in artistic and educational activities

*Short Description:* The course examines the object and subject of the methodology of art education, the basics of theory, history and methods of art education. The methodology of art education is an area of activity related to scientific research, based on the problems of art education, including primary provisions, categories, basic patterns that must be solved.

*Learning Outcomes in EP (LOP):*

LOP 4 - Is able to analyze, evaluate and synthesize in the course of scientific research the results of pedagogical and individual artistic and creative activities in the field of information, digital, artistic work, graphics and design; has theoretical knowledge and practical skills in the use of modern multimedia technologies and new media in the creation of design art projects;

LOP 5 - Uses methodological and conceptual knowledge by conducting scientific research in the development of new knowledge; has the skills to create technological documentation, including the introduction of modern computer technologies, design, application in scientific and educational activities;

LOP 6 - Has knowledge of pedagogical art and modern pedagogical methods and technology necessary for the effective organization of the educational process in the field of artistic creativity based on the updated content of education;

LOP 7 - Knows the classification of types of art, owns the conceptual apparatus that determines the specifics of art in various epochs of world culture; teaching the values of the social system, manifested in a special form of world and national culture; has knowledge of current trends and trends in the field of visual art and design to create art projects that meet the requirements of the modern market;

LOP 8 - Plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and develops a program and methodology; carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization;

*Learning Outcomes in Course (LOC):*

LOC 1 - knowledge of tasks based on a systemic solution of scientific and practical innovative developments and applied research in the field of art education;

LOC 2 - education in the field of research trajectory based on scientific ethics;

LOC 3 - mastering the methods and techniques of theoretical analysis of scientific research;

LOC 4 - an innovative style of scientific and pedagogical thinking and full acceptance of pedagogical existence; understand the social meaning of the teaching profession, observe the principles of professional ethics, improve the personal professional qualities of the teacher.

*Post requisites:* Design Theory and Methodology

*Optional component 2*

*Course:* **Scientific and Methodological Foundations of Modern Art and Pedagogical Education**

*Intensity of the Course:* 5 academic credits

*Module Code:* SRM-2

*Module Name:* Scientific Research Methodology

*Prerequisites:* Methodological Foundations of Kazakh Ethnopedagogics

*Purpose:* formation of theoretical knowledge about the science of modern artistic and pedagogical education, independent organization of fundamental and applied research in professional pedagogy.

*Short Description:* Purpose, objectives, general characteristics of the course. The essence and specificity of modern art education. The place of art education in the general education system. Problems and contradictions in the theory and practice of modern art education. Philosophy and art. The principle of integrity in philosophy, general scientific fields and its significance for art education. The relationship between objective and subjective in philosophy and art education

*Learning Outcomes in EP (LOP):*

LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of pedagogical and individual artistic and creative activity in the field of information, digital, artistic work, graphics and design; has theoretical knowledge and practical skills in the use of modern multimedia technologies and new media in the development of design art projects;

LOP 6-has knowledge of the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic creativity according to the updated content of education;

*Learning Outcomes in Course (LOC):*

LOC 1- know the fundamentals of scientific research that allow identifying contemporary issues in art and pedagogical education;

LOC 2 - application of new conceptual ideas and directions of development of pedagogical science in contemporary educational paradigms and texts;

LOC 3 - offers theoretical and methodological foundations for assessing the quality of art and pedagogical education;

LOC 4 - understand the relationship between common issues in developing the main scientific concepts of art and pedagogical education.

*Post-requirements:* Methodology for Scientific Research of Project Graphics

*Optional component 3*

*Course:* **Methodology for Scientific Research of Project Graphics**

*Intensity of the Course:* 5 academic credits

*Module Code:* SRM-2

*Module Name:* Scientific Research Methodology

*Prerequisites* Research design and ethical standards

*Purpose:* Forming skills in searching, collecting, and processing scientific information in graphic design.

*Short Description:* Provides the only theoretical and practical training of masters of theoretical methodology of scientific research of graphic art: the subject and objectives of the methodology of scientific research of graphic art. Actual problems of methodology of scientific research of graphic art. General methodology of scientific creativity. The basic concepts of research work in art. The use of methods of scientific cognition, logical rules and rules of scientific research of art.

*Learning Outcomes in EP (LOP):*

LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of pedagogical and individual artistic and creative activity in the field of information, digital, artistic work, graphics and design; has theoretical knowledge and practical skills in the use of modern multimedia technologies and new media in the development of design art projects;

LOP 5-uses methodological and conceptual knowledge through scientific research in the development of new knowledge; acquires skills in creating technological documentation, including the introduction of modern computer technologies, design, application in scientific and educational activities;

LOP 6-has knowledge of the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic creativity according to the updated content of education;

LOP 7-to possess the conceptual apparatus defining the features of art of different epochs of world culture, to know the classification of art forms; to teach the values of the social system manifested in a special form of world and national culture, to possess knowledge of modern trends and trends in the field of visual art and design to create art projects that meet the requirements of the modern market;

LOP 8-plans, organizes experimental research work, determines ways to solve problems of a scientific project and develops a program and methodology; carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization.

*Learning Outcomes in Course (LOC):*

LOC 1- training in the study of scientific and theoretical methodology of graphic art, development of creative abilities;

LOC 2 – knowledge of modern methods of scientific research;

LOC 3 – mastering the skills of applying graphic design methods in science and technology

*Post-requirements:* Modern Pedagogical Technologies in Teaching Graphics and Design

*Optional component 3*

*Course:* **Design Theory and Methodology**

*Intensity of the Course: 5 academic credits*

*Module Code:* SRM-2

*Module Name:* Scientific Research Methodology

*Prerequisites:* Research design and ethical standards

*Purpose:* Defining the main content of the theory and methodology of the field of design, considering design programs

*Short Description:* Design theory and methodology. Definition and types of design. History of design and development. The emergence of new advanced substances. Formation of a harmonious material environment. The beginning of industrial design. Proportion and proportion. The form of integrity and content. Industrial Design. Types, features and design features. The concept of industrial design, its subject matter, purpose and options. Stages of artistic structuring.

*Learning Outcomes in EP (LOP):*

LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of pedagogical and individual artistic and creative activity in the field of information, digital, artistic work, graphics and design; has theoretical knowledge and practical skills in the use of modern multimedia technologies and new media in the development of design art projects;

LOP 5-uses methodological and conceptual knowledge through scientific research in the development of new knowledge; acquires skills in creating technological documentation, including the introduction of modern computer technologies, design, application in scientific and educational activities;

LOP 6-has knowledge of the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic creativity according to the updated content of education;

LOP 7-to possess the conceptual apparatus defining the features of art of different epochs of world culture, to know the classification of art forms; to teach the values of the social system manifested in a special form of world and national culture, to possess knowledge of modern trends and trends in the field of visual art and design to create art projects that meet the requirements of the modern market;

*Learning Outcomes in Course (LOC):*

LOC 1 - know the types, goals and laws, principles, methods and means, forms of the design field in the pedagogical process;

LOC 2 - understands the meaning and significance of teaching design methodology in pedagogical education, its organizational structure and functional area;

LOC 3 - studies the main categories of design theory in pedagogical activity.

*Post requirements:* Teaching Technology for the "Graphics and Design" Profile

## 2 OPTIONAL COMPONENTS OF THE CYCLE OF MAJOR COURSES

*Optional component 1*

*Course:* **Pedagogical Arts Study**

*Intensity of the Course: 4 academic credits*

*Module Code:* SKS - 4

*Module Name:* Module Subject Knowledge

*Prerequisites:* History and philosophy of science

*Purpose:* Exploring the emergence and development of artistic creative activity from the perspective of pedagogical art studies, explaining the place of the modern artistic industry in the historical and cultural process, and developing the ability to understand and describe its terminological and methodological framework

*Short Description:* Analysis and generalization of views on the methodology of science, integration of goals and principles of scientific research, classification and design of methods, methods of their implementation, clarification of their meaning and content, identification of the features of the application of research methods in art education

*Learning Outcomes in EP (LOP):*

LOP 3 knows the content and tasks of the main directions of research work carried out in educational institutions, and management activities in specialized organizations;

LOP 5 uses methodological and conceptual knowledge through scientific research in the development of new knowledge; acquires skills in creating technological documentation, including the introduction of modern computer technologies, design, application in scientific and educational activities;

LOP 6 has knowledge about the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic creativity according to the updated content of education;

LOP 8 plans, organizes experimental research work, determines ways to solve the problems of a scientific project and develops a program and methodology; carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization.

*Learning Outcomes in Course (LOC):*

LOC 1 - explains current methodological and theoretical issues of teaching subjects;

LOC 2 - learns to analyze and recognize the main normative data and literature, educational and methodological complexes on the subject;

LOC 3 - in the process of teaching pedagogical art history, world pedagogy independently masters new methods in science;

LOC 4 - introduces the achievements of world art history science, new opinions, new theoretical ideas.

*Post-requirements:* Pedagogical Innovation

*Optional component 1*

*Course:* **Theory of the History of World and Contemporary Art**
*Intensity of the Course:* 4 academic credits
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* History and philosophy of science
*Purpose:* Developing the necessary subject competencies in the history and theory of art in the field of historical theory of world and contemporary art.
*Short Description:* Purpose, objectives, general characteristics of the course. Tasks of additional education. The main directions of additional education. Problems of additional art education, mastering the latest technologies and modern teaching of painting, graphics, arts and crafts, design, computer graphics and art history, theoretical disciplines. Theoretical, methodological and psychological foundations of teaching art and aesthetic disciplines in the system of additional art education
*Learning Outcomes in EP (LOP):*
LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of pedagogical and individual artistic and creative activity in the field of information, digital, artistic work, graphics and design; has theoretical knowledge and practical skills in the use of modern multimedia technologies and new media in the development of design art projects;
LOP 7-to possess the conceptual apparatus defining the features of art of different epochs of world culture, to know the classification of art forms; to teach the values of the social system manifested in a special form of world and national culture, to possess knowledge of modern trends and trends in the field of visual art and design to create art projects that meet the requirements of the modern market;
*Learning Outcomes in Course (LOC):*
LOC 1 - knows the importance of the problems of world and contemporary art, history and theory of art in the education system;
LOC 2 - defines the nature of postmodernism and teaches to differentiate genres;
LOC 3 - can evaluate the history of world art from a theoretical point of view, observe artistic features;
LOC 4 - can analyze and systematize data for research and project work.
*Post-requirements:* Psychology of artistic creativity Pedagogical Innovation

*Optional component 2*

*Course:* **Pedagogical Innovation**
*Intensity of the Course:* 5 academic credits
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* Pedagogical Arts Study
*Purpose:* Understanding innovative pedagogical technologies and determining directions for organizing educational forms and content on a scientific basis
*Short Description:* Innovations and trends in the clothing industry. Product development innovation. The use of computer technology in the clothing industry. Features of automation of design training. Evolution of CAD "Grace". Design clothes in CAD. Unique properties of materials. Smart fabrics. Nanotechnology in textiles. The use of antibacterial fibers in clothing and underwear. Obtaining and using multilayer materials in the manufacture of clothing
*Learning Outcomes in EP (LOP):*
LOP 3- knows the content and tasks of the main directions of research work carried out in educational institutions, and management activities in specialized organizations;
LOP 5 uses methodological and conceptual knowledge through scientific research in the development of new knowledge; acquires skills in creating technological documentation, including the introduction of modern computer technologies, design, application in scientific and educational activities;
LOP 6 has knowledge about the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic creativity according to the updated content of education;
LOP 8 plans, organizes experimental research work, determines ways to solve the problems of a scientific project and develops a program and methodology; carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization.
*Learning Outcomes in Course (LOC):*
LOC 1 – knowledge of laws and regulatory and methodological materials on innovative changes in the education system;
LOC 2 – determine the main theoretical foundations for the introduction of modern innovative technologies into the educational process;
LOC 3 – differentiation of concepts and phenomena in reading material, analysis of innovative activities in education;
LOC 4 – forecasting the results of pedagogical influence, studying the factors stimulating innovation in education;

LOC 5 - Mastering effective ways of using innovative technologies in the new education system.
*Post-requirements:* Master's student Research work

*Optional component 2*

*Course:* **Psychology of Artistic Creativity**
*Intensity of the Course:* 5 academic credits
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* Theory of The History of World and Contemporary Art
*Purpose Mastering the pathways, directions, and methods of integrating pedagogical, psychological, and didactic content within the educational system with the values of scientific knowledge*.
*Short Description:* The course examines the essence of the concepts "psychology of art", "psychology of artistic creativity", etc. Psychology of art: art as cognition, art as an artistic device, art as psychoanalysis, art as catharsis. The problem of artistic creativity. The relationship between scientific and artistic creativity. Pedagogical conditions for the development of students' artistic activity: imagination, intuition, thinking, etc. Psychological aspects of artistic creativity
*Learning Outcomes in EP (LOP):*
LOP 2-owns the theoretical and methodological foundations of the development of pedagogical and psychological science, management processes and teaching methods, the essence and content of psychological and pedagogical research;
LOP 6-has knowledge of the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic creativity according to the updated content of education;
LOP 7-to possess the conceptual apparatus defining the features of art of different epochs of world culture, to know the classification of art forms; to teach the values of the social system manifested in a special form of world and national culture, to possess knowledge of modern trends and trends in the field of visual art and design to create art projects that meet the requirements of the modern market;
*Learning Outcomes in Course (LOCK):*
LOC 1 critical thinking, ability to foresee problems and resolve conflicts, make decisions and feel responsible for them;
LOC 2 - can effectively use the capabilities of cognitive abilities;
LOC 3 - through the integration of thought, consciousness and imagination, master cognitive relationships, comprehensively implement the cognitive process;
LOC 4 - can directly communicate with processes belonging to a complex high level of cognitive activity, such as thinking, excitement, research, analysis;
LOC 2 - understands the meaning and content of psychological and pedagogical research
*Post-requirements:* Research practice (data collection)

*Optional component 3*

*Course:* **Modern Pedagogical Technologies in Teaching Graphics and Design**
*Intensity of the Course: 5* academic credits
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* Methodology for Scientific Research of Project Graphics
*Purpose:* Training in information systems used in graphic design for application in modern information technologies through advanced pedagogical practices
*Short Description:* The discipline presents various personality-activity and personality-oriented pedagogical technologies; information and communication technologies (multimedia, interactive courses, problematic, anticipatory and active, heuristic learning, pedagogy of cooperation, round table discussion, project method, etc. in teaching graphic arts disciplines; Features of the organization of the learning process based on the case method.
*Learning Outcomes in EP (LOP):*
LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of its own artistic and creative activity and pedagogical activity in the field of information, digital, artistic work, graphics and design;
LOP 5-uses methodological and conceptual knowledge, conducting scientific research in the development of new knowledge;
LOP 6-has knowledge of the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic and technical creativity on the updated content of secondary education;
LOP 7-performs comprehensive monitoring based on diagnostics, analysis and generalization of scientific research;
LOP 8-plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and can develop a program and methodology.
*Learning Outcomes in Course (LOC):*
LOC 1 – ability to plan and organize a graphic design system;

LOC 2 – ability to create graphic design processes and functions;

LOC 3 – studies modern methods of teaching graphics and design and can implement them based on information and communication technologies.

*Post requirements:* Research practice (data collection)

*Optional component 3*

*Course:* **Teaching Technology for the "Graphics and Design" Profile**

*Intensity of the Course: 5* academic credits

*Module Code:* SKS - 4

*Module Name:* Module Subject Knowledge

*Prerequisites:* Computer Graphics and Modeling

*Purpose:* Mastering the main directions of implementing informatization in the system of artistic education and the educational process of introducing new information technologies

*Short Description:* Fundamentals of training technology for the "Graphics and Design" profile. Graphic systems, methods, and information visualization tools. Graphic modeling and design. Methods of graphics and design. Design and computer graphics. Computer-aided design systems (CAD); STAPRIM, "Grace", "Leko", "ASSOL", Lectra, Gerber. Construction of computer-aided design, computer-aided and visualization.

*Learning Outcomes in EP (LOP):*

LOP 4 is able to analyze, evaluate and synthesize in the course of scientific research its own artistic and creative actions and pedagogical results in the field of information, digital, artistic work, graphics and design;

LOP 5 uses methodological and conceptual knowledge, conducting scientific research in the development of new knowledge;

LOP 6 acquires knowledge about the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic and technical creativity on the updated content of secondary education;

LOP 7 carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization;

LOP 8 plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and can develop a program and methodology.

*Learning Outcomes in Course (LOC):*

LOC 1 – is able to organize and enhance creative abilities by designing, modeling and modeling products using ICT;

LOC 2 – can use innovative technologies in accordance with educational goals and age characteristics;

LOC 3 - uses modern information technologies and teaching methods when teaching the subject:

LOC 4 – creating a program for information technologies in managing graphic projects and visualization using information systems.

*Post-requirements:* Methodology for Scientific Research of Project Graphics

*Optional component 4*

*Course:* **Computer Graphics and Modeling**

*Intensity of the Course: 5 academic credits*

*Module Code:* SKS - 4

*Module Name:* Module Subject Knowledge

*Prerequisites:* Quantitative Research and Analysis

*Purpose:* By performing various graphic works in computer programs, mastering modern software products and skills

*Short Description:* The main directions of computer graphics. Basic principles of modeling. Classification of models. Technology for creating models. Graphic positions in modeling. Stages of modeling. Building the model. Execution of drawings with technical and economic calculations. Study of the main drawings of the product, drawings of small parts, model features. Analysis and processing of simulation results. Manufacturing process modeling.

*Learning Outcomes in EP (LOP):*

LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of its own artistic and creative activity and pedagogical activity in the field of information, digital, artistic work, graphics and design;

LOP 5-uses methodological and conceptual knowledge, conducting scientific research in the development of new knowledge;

LOP 8-plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and can develop a program and methodology.

*Learning Outcomes in Course (LOC):*

LOC 1 – design of graphic works in computer technologies;

LOC 2 – analysis of methods for the effective use of computer networking tools;

LOC 3 – mastering the main directions of computer graphics, the basic principles of modeling;

LOC 4 – mastering effective ways of using computer technologies in the education system

*Postrequirements:* Research practice (data collection)

*Optional component 4*

*Course:* **Computer Technologies in Design, Scientific and Educational Activities**
*Intensity of the Course: 5 academic credits*
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* Research design and ethical standards
*Purpose:* to define the basic principles of computer software design in design science and education and to develop design skills
*Short Description:* Introduces modern computer technologies in design and their application in design, scientific and educational activities, studying information systems and technologies, their software. Information technology in science and education; "Multimedia technologies".
*Learning Outcomes in EP (LOP):*
LOP 4 is able to analyze, evaluate and synthesize in the course of scientific research its own artistic and creative actions and pedagogical results in the field of information, digital, artistic work, graphics and design;
LOP 5 uses methodological and conceptual knowledge, conducting scientific research in the development of new knowledge;
LOP 6 acquires knowledge about the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic and technical creativity on the updated content of secondary education;
LOP 7 carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization;
LOP 8 plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and can develop a program and methodology.
*Learning Outcomes in Course (LOC):*
LOC 1 – know the basic principles of design processes and research methodology;
LOC 2 – use of stylistic trends of Russian culture from ancient times to the present day in various information technologies;
LOC 3 – be able to freely work with stylistic and genre features of various artistic works of design in the course of real design;
LOC 4 – understand the rationale for ethical requirements in the design industry, be able to design visual external and internal structures.
*Postrequirements:* Research practice (data collection)

*Optional component 5*

*Course:* **Artistic Technology and Applied Creativity**
*Intensity of the Course:* 4 academic credits
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* Technological Training Workshop
*Purpose:* analysis and development of a model for teaching technical and artistic-applied creativity
*Short Description:* Theoretical foundations of training future teachers to guide the technical and decorative-applied creativity of schoolchildren. Management of arts and crafts and technical creativity of schoolchildren. Analysis and design of a model for preparing future teachers for the leadership of decorative, applied and technical creativity of schoolchildren. Organization of technical and artistic-applied creativity of students.
*Learning Outcomes in EP (LOP):*
LOP 4 is able to analyze, evaluate and synthesize in the course of scientific research its own artistic and creative actions and pedagogical results in the field of information, digital, artistic work, graphics and design;
LOP 5 uses methodological and conceptual knowledge, conducting scientific research in the development of new knowledge;
LOP 6 acquires knowledge about the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic and technical creativity on the updated content of secondary education;
LOP 7 carries out comprehensive monitoring of scientific research based on diagnostics, analysis and generalization;
LOP 8 plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and can develop a program and methodology.
*Learning Outcomes in Course (LOC):*
LOC 1 – forms all the elements and basic patterns of studying artistic creativity in professional mastery;
LOC 2 – can form a unified idea of the laws of modern creative design technologies and use them in professional activities;

LOC 3 – develops intelligence and memory, creativity, concentration and other cognitive abilities;
LOC 4 – can use the achievements of artistic creativity in projects and research of modern pedagogical science.
*Post requirements:* Computer Graphics and Modeling

*Optional component 5*

*Course:* **Technological Training Workshop**
*Intensity of the Course:* 4 academic credits
*Module Code:* SKS - 4
*Module Name:* Module Subject Knowledge
*Prerequisites:* Artistic Technology and Applied Creativity
*Purpose:* preparation of pedagogical theoretical knowledge for the practical application of innovative technologies in the educational process
*Short Description:* The discipline is the use of the technological training of students. In the course of studying the classification of technological equipment, its purpose, design and principle of operation. In the process of mastering the discipline, students acquire skills in working with equipment, taking into account ergic requirements and safety rules. The study of the course is focused on the formation of technological competence in the production of a material product
*Learning Outcomes in EP (LOP):*
LOP 4-is able to analyze, evaluate and synthesize in the course of scientific research the results of its own artistic and creative activity and pedagogical activity in the field of information, digital, artistic work, graphics and design;
LOP 5-uses methodological and conceptual knowledge, conducting scientific research in the development of new knowledge;
LOP 6-has knowledge of the pedagogy of art and modern pedagogical methods and technologies necessary for the effective organization of the educational process in the field of artistic and technical creativity on the updated content of secondary education;
LOP 7-performs comprehensive monitoring based on diagnostics, analysis and generalization of scientific research;
LOP 8-plans, organizes experimental research, determines approaches to solving the tasks of a scientific project and can develop a program and methodology.
*Learning Outcomes in Course (LOC):*
LOC 1 - knows the meaning of science and basic concepts in the field of art education;
LOC 2 – cognitive, informational, strategic, socio-cultural competencies have been formed;
LOC 3 – strives for self-development, improving qualifications and skills;
LOC 4 - has the ability to creatively organize scientific and pedagogical research.
*Postrequirements:* Computer Technologies in Design, Scientific and Educational Activities