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Current state of curriculum content for design in the training of jewellery artists: a comparative analysis

Abstract. A comparative analysis of design training content in universities offering the program 54.03.02 "Decorative and applied arts and folk art crafts" was conducted and the main differences were identified. A comparative and contrastive analysis of the educational program content was used as the research method. Based on the developed system of criterion assessments, three design training models were identified: artistic and creative, design and technological, engineering and technological. It was concluded that the model of the Russian university of traditional art crafts best meets the objectives of preserving classical traditions in jewelry art and can serve as a guide for universities focused on training jewelry artists as creators.

Keywords: jewellery art, design, learning models, design training, higher education, bachelor's degree.

Currently, undergraduate (higher education) training in the field of jewelry art is offered in 28 higher education institutions, including the Russian university of traditional art crafts [11]. However, as an analysis of the content of educational programs shows, in most educational institutions, the profile of training for future jewelry artists is characterized by a "lack of focus" and an absence of specialization. This involves training "broad-profile" specialists, predominantly of an engineering and technological orientation, who specialize in working with metal, or artist-technologists and design-technologists for jewelry production [28].

This means that the mastery of jewelry art in its traditional sense – the creation of unique, highly artistic works, performed largely by hand – is being pushed into the background, giving way to related fields: design, 3D modeling, materials science and industrial technologies. A contradiction arises between the educational programs, which define the specifics of the "Artistic Metal (Jewelry art)" training profile and the real educational situation, where graduates often do not possess the competencies of a true jewelry artist – a creator capable of independently designing works and bringing them to life in material, from concept to realization [28].

The focus of educational activities is shifting towards an engineering-technological one (3D modeling, CAD/CAM, additive technologies, mass production) or a design-oriented one (fashion industry, accessories, interior objects). This approach contradicts the traditional training in the field of jewelry art, which is based on manual artistic labor, the creation of an artistic concept for a jewelry piece, and a high level of craftsmanship. As a result, the very concept of a "jewelry artist" as a bearer of the traditions of jewelry art, design culture and the experience and

skills of manual artistic labor is being diluted. Furthermore, design is increasingly being interpreted not as a creative process, but as a tool for serving production goals or market demands. Against this backdrop, the artistic-creative model implemented at the Russian university of traditional art crafts acquires particular value. There, design retains its original nature – as a mental, artistic-creative process and handcrafted execution [7; 10; 15].

The object of the research is the content of design training within the educational programs in the field of study 54.03.02 "Decorative and applied arts and folk art crafts", implemented at six higher education institutions of the Russian Federation. The documentation for these programs is publicly available: Russian university of traditional art crafts [15], Saint Petersburg state university of industrial technologies and design [4], Saint Petersburg state academy of art and design named after A.L. Stieglitz [11], Kostroma state university [13], Ural state university of architecture and art [1; 28], and the Stroganov Russian state university of design and applied arts [12; 14].

The object of the research was a comparative analysis of the curricula for the discipline of "Design": goal-setting, structure and scope, content, the ratio of classroom to independent work, forms of ongoing and final assessment, as well as the practical assignments stipulated by the programs. The selection of these parameters was determined by the need for a comprehensive evaluation of the content of design education, which allows for identifying fundamental differences in approaches to curriculum development and the organization of the educational process itself. The methodological support for design education and the competencies developed in project activities in accordance with the federal state educational standard were also studied [20].

A comparative analysis of the "Design" programs at six universities allowed for the identification of three conditional models for training specialists in the field of jewelry art, which determine the content and priorities of this discipline.

- ✓ *Artistic-creative model*, which is adhered to by the Russian university of traditional art crafts. Design is positioned as one of the key components in the development of a jewelry artist, a creator who masters the full cycle of project work for creating jewelry: from concept to a finished graphic project, executed by hand. This approach to education forms qualitative differences in students compared to those who work exclusively with computer programs to create a design. By performing the stages of project work with artistic materials in a handcrafted manner, the student hones their sensory channels (tactile, visual, spatial) and develops analytical, comparative, compositional, imaginative and other types of thinking. The essence of the difference lies in the fact that manual design opens up virtually unlimited possibilities for creative exploration for the jewelry artist: the concept can be adjusted during the execution process, unexpected associations and unique artistic solutions arise. Digital tools, on the contrary, constrained by algorithms and an interface, limit the spectrum of artistic possibilities, thereby narrowing the space for creativity.

The model of jewelry design education under consideration certainly takes into account the technological and technical capabilities of production, fashion

trends and consumer market demands. Graduates who possess unique skills in manual artistic labor and design thinking are in demand in all spheres of the jewelry industry, including being able to successfully work both in the field of mass production and to create author's jewelry pieces – masterpieces of museum level.

Features of the model:

- The presence of specialized academic disciplines that are absent in other universities ("Decorative drawing in jewelry art", "Decorative painting in jewelry art", "Technical drawing", "General composition" [22; 23; 32], etc.);
- An orientation towards the classical examples of 19th–20th century jewelry art, which allows for the creation of contemporary pieces that meet fashion trends and consumer market demands;
- A rich methodological fund [5-9; 22-25; 30-34];
- The scope of the discipline is 19 credit units (684 academic hours) [10];
- A high proportion of classroom work (up to 75% of the total volume), which is due to the need for constant contact with an instructor who guides the student throughout the entire design process;
- Final certification: priority in final qualifying works is given to the unity of the author's concept and manual artistic labor. It is mandatory to present an artistic and graphic design of a jewelry piece, executed manually on a board;
- Key competencies: General Professional Competencies - 3 (design and implementation in material), Professional Competencies - 2 (development of original graphic projects), Professional Competencies - 3 (scientific justification of novelty) [10].

The uniqueness of the model lies in the priority role of design as a creative process – the foundation for creating a jewelry piece, a core academic discipline during which students learn not just an algorithm for developing an item, but form the ability to see the expressiveness of lines, spots, shapes and successful compositional solutions long before they are transferred to a digital format or metal. This approach forms not only a qualified executor but also a creator capable of independent artistic decisions when creating a jewelry piece.

✓ *Design-technological model of education* is implemented at the Saint Petersburg state university of industrial technologies and design [4], the Saint Petersburg state academy of art and design named after A.L. Stieglitz [11], the Stroganov Russian state university of design and applied arts [12] and the Ural state university of architecture and art [29]. In this model, design is understood as a synthesis of creative vision and digital technologies. This approach develops in students the ability to generate design solutions and implement them using modern tools (computer graphics, 3D modeling and visualization). Design here is inextricably linked with constructive and technological development, which orients graduates more towards the design industry and production, where there is a demand for universal specialists who possess both artistic and engineering competencies. This allows them to work in both the author-designer and industrial (manufacturing) sectors.

Features of the model (common to all universities in this model):

- A wide range of design products, which includes not only jewelry and accessories, but also medals, trophies, tableware and small and large-scale sculptural works for interior and exterior spaces. This fundamentally distinguishes this model from the artistic-creative one, where the object of design is specifically jewelry art as the creation of complex, highly artistic pieces;
- Design combines the artistic concept with constructive-technological (digital) development and visualization, which requires the mandatory use of computer technologies;
- The curriculum includes disciplines from the design and technology block, such as “Construction”, “Engineering graphics” and “Model making”, which allows students, from the initial stages of designing jewelry, to take technical limitations into account and to carry out this work in parallel with mastering production technologies;
- The teaching and methodological support for the discipline of “Design” is presented fragmentarily: at the Saint Petersburg state academy of art and design named after A.L. Stieglitz, a manual on the narrow field of “Silhouette graphics in pierced metal” [11, 26] has been developed; at the Stroganov Russian state university of design and applied arts, there is a set of assessment tools and a manual titled “Course project design” [17, 21]; at the Ural state university of architecture and art, there are textbooks on design, computer modeling and artistic metalworking [16, 19]; project assignments are not publicly available;
- The proportion of classroom work varies from 55% to 65% (at the Saint Petersburg state university of industrial technologies and design and the Saint Petersburg state academy of art and design named after A.L. Stieglitz) and is about 50% at the the Stroganov Russian state university of design and applied arts (in related disciplines); at the Ural state university of architecture and art, exact data is not available, which reflects the varying amount of independent work with digital tools;
- The final assessment is focused on the render [34] and design/engineering documentation that confirms the product’s suitability for mass production; at the Stroganov Russian state university of design and applied arts and the Ural state university of architecture and art, the requirements for the final qualifying work stipulate both the submission of a handcrafted item and a mandatory digital 3D model (render);
- The learning outcomes include: developing project sketches using computer graphics and 3D modeling; designing a wide range of metal products; creating project documentation and photorealistic visualizations; synthesizing the artistic concept of a jewelry piece with a well-thought-out technology for its manufacture. At the Stroganov Russian state university of design and applied arts and the Ural state university of architecture and art, additional competencies are also recorded: Professional Competencies - 3.3 (skills in working with modern information technologies when creating objects of decorative and applied arts), Professional Competencies - 2 (the ability to develop, design and create product samples) and Professional Competencies - 3 (the ability to collect and analyze

prepared materials using information technologies to substantiate design decisions) [17, 28].

In contrast to the artistic-creative model, where design acts as the core, meaning-forming element that shapes the artist-jeweler-creator, in the design-technological model, it is subordinated to the tasks of the design industry and production. Here, design becomes a tool for achieving market and technological goals, rather than a self-sufficient creative process. While digital tools are a mandatory element of the design process, which expands technological capabilities, this simultaneously reduces the degree of preservation of the traditions of unique, highly artistic, handcrafted jewelry art. This shift in emphasis, despite the practical significance of such training, does not ensure the full preservation of the traditions of handmade jewelry art, which is based on the priority of the author's artistic vision.

✓ *The engineering-technological model* is implemented at Kostroma state university [13]. Here, design is interpreted as a production-technological process aimed at training specialists capable of developing simple custom and serial jewelry products with a mandatory consideration of the economic and technological feasibility of their implementation at an enterprise. The training is based on a digital toolkit: from computer 3D modeling to additive and laser technologies. To create jewelry designs, students master the following algorithm: "idea → sketch → 3D computer model → polymer/wax prototype → finished jewelry item", which brings them closer to the real conditions of industrial jewelry production. In this model, the artistic component plays a supporting role, giving way to calculated justification and structural reliability. This approach is focused on providing personnel for the regional jewelry industry and forms not an artist-creator, but an artist-technologist, capable of working effectively primarily in the conditions of a modern jewelry manufacturing facility. This approach fundamentally distinguishes the engineering-technological model from the artistic-creative one, where design remains a self-sufficient creative process and technology is merely a means of realizing the author's vision.

Features of the model:

- Predominance of digital tools: design is built in stages according to the algorithm "idea → sketch → 3D computer model → polymer/wax prototype → finished jewelry item" using CAD/CAM systems, additive and laser technologies [2];
- Project themes include simple custom and serial industrial items;
- The curriculum is supplemented by the discipline "Economics and organization of production" [3], which emphasizes the priority of cost justification and manufacturability. Conversely, artistic training plays a supporting role, forming only basic artistic skills;
- Methodological support is provided by manuals on designing modern jewelry items, focused on preparing design/engineering documentation and 3D design [2];
- The proportion of classroom work is about 60%; a significant amount of time is devoted to independent work, calculations and digital modeling;

- Final assessment involves the defense of a final qualifying work with a demonstration of a render and the presentation of technological documentation. The main criteria are the constructive development, reliability of connections and the product's suitability for mass production;
- The learning outcomes include: mastering 2D and 3D modeling methods using CAD systems; mastering design and preparation of technological documentation; and studying the basics of economics and production organization as they apply to the jewelry industry [2; 13].

In the engineering-technological model, design is essentially equated with industrial engineering, where priority is given to calculated justification, manufacturability and compliance with production standards. In contrast to the artistic-creative model, where design acts as a meaning-forming core and a self-sufficient creative process, here it becomes a tool for solving production tasks. The artistic concept is not the starting point and merely accompanies the technological development. This fundamental difference also determines the final result: a graduate is formed as a specialist capable of carrying out design and technological activities at a jewelry enterprise, but not as an author of unique, highly artistic works. Thus, the engineering-technological model, despite its practical significance for providing the industry with personnel, does not create conditions for the preservation and development of the traditions of jewelry art in its classical understanding.

The conducted comparative analysis of the content of design training at six universities implementing the field of study 54.03.02 “Decorative and applied arts and folk art crafts” revealed not just quantitative discrepancies in the number of class hours or the list of competencies, but fundamentally different educational structures (models), in each of which the discipline of “Design” is positioned in accordance with the goals and specifics of personnel training. These differences are qualitative in nature and determine not only the structure of curricula but also the very mission of training jewelers.

The main criterion is the essence of design. In the artistic-creative model, the term “design” is interpreted as a self-sufficient creative process, the semantic core of professional development, where manual artistic and graphic execution is not just a means, but the goal and result of education. It is here that design forms an artist-jeweler, a creator capable of independent artistic expression through design activity and the preservation of the tradition of manual execution.

In the design-technological model, design is understood as a synthesis of artistic vision and digital technologies, oriented towards creating competitive products that meet market demands. Here, design becomes a tool for achieving external goals – design trends, production feasibility and market demand. This narrows creative potential but expands the applied significance of design activity.

In the engineering-technological model, design is understood as a process of industrial creation, engineering and manufacturing. Priority is given to calculated justification, economic feasibility and suitability for mass production. The artistic component here acts only as a supporting background and the design process itself is reduced to an algorithmized sequence of digital, mechanical and other operations.

Thus, only the artistic-creative model consistently and purposefully ensures the training of a jewelry artist as a bearer of the traditions of manual design mastery, for whom digital technologies remain an auxiliary tool, not a replacement for the creative process. The other two models (design-technological and engineering-technological), despite their practical significance for industry, the design sphere and manufacturing, do not ensure the full preservation and development of jewelry art in its classical understanding – as a unique, highly artistic, handcrafted activity.

From a pedagogical point of view, the choice of an educational strategy is fundamental: it determines whether a graduate will be an author-creator or an executor-technologist. For universities that set the task of training artists-jewelers capable of creating unique author's works, the artistic-creative model of the Russian university of traditional art crafts should be considered as the benchmark. Its key elements – the priority of manual graphics, the presence of specialized disciplines, systematic methodological support and an orientation towards classical examples (19th–20th centuries) – can serve as guidelines for modernizing educational programs.

The research results also show that the further divergence of essential definitions, as well as the replacement of traditional design methods (using graphic materials on paper) with digital ones and other differences between the models, lead to the loss of the unique knowledge and skills (competencies) that distinguish a jewelry artist from representatives of related specialties in the field of jewelry art (industry).

The All-Russian classifier of professions of workers, positions of employees and pay grades designates a group of professions "Masters of manufacturing jewelry and items from precious metals and stones", which includes "jeweler (jeweler-modeler)", "jeweler-mounter", "jeweler-engraver", "jeweler-setter" and others [18]. Higher education institutions training personnel in this field are oriented towards their preparation. The profession of "jewelry artist" as a standalone occupation is only established at the level of higher education – in educational programs for the field of study 54.03.02 "Decorative and applied arts and folk art crafts", with a profile in "Artistic metal (Jewelry art)". This attests to the specific nature of training in this field at the Russian university of traditional art crafts. Preserving specific competencies for the formation of a specialist requires programmatic and methodological design, in which the discipline of "Design" retains its creative essence and remains the core of professional training.

References

1. [Rabochaya programma discipliny` «Proektirovanie» po napravleniyu podgotovki 54.03.02 «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`», profil` «Xudozhestvennaya obrabotka metalla»]. – Tekst : e`lektronny`j // Ural`skij gosudarstvenny`j arxitekturno-xudozhestvenny`j universitet : oficial`ny`j sajt. – URL: https://www.usaaa.ru/faculties/iii (data obrashheniya: 14.06.2026).

2. Bezdenezhny`x A. G. Xudozhestvennoe 3D-proektirovanie serijny`x yuvelirny`x izdelij v programme Autodesk 3Ds Max Design 2013 : uchebnoe posobie / A. G. Bezdenezhny`x, N. A. Zaeva ; Kostromskoj gosudarstvenny`j

texnologicheskij universitet. – Kostroma : KGTU, 2015. – 144 s. : il., tabl. – ISBN 978-5-8285-0784-9. – Tekst : neposredstvenny`j.

3. Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly` : [glavnaya stranicza sajta]. – URL: https://op.kosgos.ru/art/54-03-02-dpi-o-b (data obrashheniya: 03.05.2026). – Tekst : e`lektronny`j.

4. Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`. – Tekst : e`lektronny`j // Institut prikladnogo iskusstva : oficial`ny`j sajt. – URL: https://sutd.ru/ipi/education/171/354/ (data obrashheniya: 02.05.2026).

5. Dronov D. S. Gemmologiya : uchebnoe posobie dlya bakalavrov. Chast` I / D. S. Dronov. – Sankt-Peterburg : VShNI, 2018. – 60 s. – ISBN 978-5-6042073-2-1. – Tekst : neposredstvenny`j.

6. Dronov D. S. Gemmologiya : uchebnoe posobie dlya bakalavrov. Chast` II / D. S. Dronov. – Sankt-Peterburg : VShNI, 2018. – 87 s. – ISBN 978-5-6042073-2-1. – Tekst : neposredstvenny`j.

7. Dronov, D. S. Proektirovanie (yuvelirnoe iskusstvo) : metodicheskoe posobie dlya prepodavatelej : napravlenie «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`», profil` «Xudozhestvenny`j metall» / D. S. Dronov ; Vy`sshaya shkola narodny`x iskusstv (akademiya). – Sankt-Peterburg : VShNI, 2021. – 45 s. : il. – Bibliogr.: s. 43-44. – ISBN 978-5-907542-42-6. – Tekst : neposredstvenny`j.

8. Dronov D. S. Proizvodstvennoe obuchenie (yuvelirnoe iskusstvo) : metodicheskoe posobie dlya prepodavatelej : napravlenie podgotovki «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`», profil` «Xudozhestvenny`j metall» / D. S. Dronov ; Ministerstvo nauki i vy`sshego obrazovaniya Rossijskoj Federacii, Vy`sshaya shkola narodny`x iskusstv (akademiya). – [2-e izd.]. – Sankt-Peterburg : VShNI, 2021. – 46 s. : il. – Bibliogr.: s. 44-45. – ISBN 978-5-907542-46-4. – Tekst : neposredstvenny`j.

9. Dronov D. S. Proizvodstvennoe obuchenie : uchebnoe posobie dlya bakalavrov : napravlenie podgotovki «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`», profil` «Xudozhestvenny`j metall» / D. S. Dronov ; Ministerstvo obrazovaniya i nauki Rossijskoj Federacii, Federal`noe gosudarstvennoe byudzhetnoe obrazovatel`noe uchrezhdenie vy`sshego obrazovaniya Vy`sshaya shkola narodny`x iskusstv (institut). – Sankt-Peterburg : VShNI, 2017. – 120 s. – ISBN 978-5-906697-50-9. – Tekst : neposredstvenny`j.

10. Informaciya o realizuemy`x urovnyax obrazovaniya, o formax obucheniya, normativny`x srokax obucheniya, sroke dejstviya gosudarstvennoj akkreditacii obrazovatel`noj programmy` (pri nalichii gosudarstvennoj akkreditacii), o yazy`kax, na kotory`x osushhestvlyaetsya obrazovanie (obuchenie) : 54.03.02 Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly` : [razdel sajta obrazovanie]. – Tekst : e`lektronny`j // Rossijskij universitet tradicionny`x xudozhestvenny`x promy`slov : oficial`ny`j sajt. – URL: https://www.vshni.ru/sveden/education (data obrashheniya: 01.05.2026).

11. Informaciya o realizuemy`x urovnyax obrazovaniya, o formax obucheniya, normativny`x srokax obucheniya : 54.03.02 Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly` : [razdel sajta obrazovanie]. – Tekst : e`lektronny`j

// Sankt-Peterburgskaya gosudarstvennaya xudozhestvenno-promy`shlennaya akademiya imeni A.L. Shtiglicza : oficial`ny`j sajt. – URL: https://www.ghpa.ru/sveden/education/ (data obrashheniya: 08.05.2026).

12. Informaciya o realizuemy`x urovnyax obrazovaniya, o formax obucheniya, normativny`x srokax obucheniya : Osnovnaya obrazovatel`naya programma vy`sshego obrazovaniya po napravleniyu podgotovki 54.03.02 «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`», profil` «Xudozhestvenny`j metall (yuvelirnoe iskusstvo)». – Moskva : RGXPU im. S. G. Stroganova, 2024. – Tekst : e`lektronny`j // Rossijskij gosudarstvenny`j xudozhestvenno-promy`shlenny`j universitet imeni S. G. Stroganova. : oficial`ny`j sajt. – URL: https://rghpu.ru/sveden/education/eduaccred// (data obrashheniya: 14.06.2026).

13. Kafedra texnologii xudozhestvennoj obrabotki materialov, xudozhestvennogo proektirovaniya, iskusstv i texnicheskogo servisa : osnovny`e napravleniya deyatel`nosti kafedry`. – Tekst : e`lektronny`j // Kostromskoj gosudarstvenny`j universitet : oficial`ny`j sajt. – URL: https://kosgos.ru/svedeniya-ob-organizatsii/struktura-i-organy-upravleniya/instituty/institut-dizajna-i-tekhnologij/kafedry/kafedra-tkhom-khp-i-i-ts.html (data obrashheniya: 02.05.2026).

14. Kafedra xudozhestvennogo metalla. – Tekst : e`lektronny`j // Rossijskij gosudarstvenny`j xudozhestvenno-promy`shlenny`j universitet imeni S. G. Stroganova : oficial`ny`j sajt. – URL: https://rghpu.ru/173/ / (data obrashheniya: 13.06.2026).

15. Kafedra: «Yuvelirnogo i kostoreznogo iskusstva». – Tekst : e`lektronny`j : [razdel sajta] // Rossijskij universitet tradicionny`x xudozhestvenny`x promy`slov : oficial`ny`j sajt. – URL: https://www.vshni.ru/kafuvelir.htm (data obrashheniya: 09.05.2026).

16. Kozyuk N. B. Frontal`no-prostranstvennaya kompoziciya: garnitur yuvelirny`x ukrashenij : uchebnoe posobie / N. B. Kozyuk ; nauch. red. I. A. Gruzdeva. – Ekaterinburg : Izdatel`stvo Ural`skogo universiteta, 2021. – 104 s. – ISBN: 978-5-7996-3374-5. – Tekst : neposredstvenny`j.

17. Ob otdel`ny`x komponentax obrazovatel`ny`x programm : Fond ocenochny`x sredstv po discipline «Osnovy` proektirovaniya» (B1.O.21). – Moskva : RGXPU im. S. G. Stroganova, 2025. – Tekst : e`lektronny`j // Rossijskij gosudarstvenny`j xudozhestvenno-promy`shlenny`j universitet imeni S. G. Stroganova. : oficial`ny`j sajt. – URL: https://rghpu.ru/sveden/education/eduop/ (data obrashheniya: 14.06.2026).

18. Obshherossijskij klassifikator professij rabochix, dolzhnostej sluzhashhix i tarifny`x razryadov OK 016-94 : postanovlenie pravitel`stva RF ot 30 aprelya 2020 g. № 616. – Tekst : e`lektronny`j // Kontur.Normativ : [sajt]. – URL: https://normativ.kontur.ru/document?moduleId=1&documentId=463977#l22 (data obrashheniya: 23.06.2026).

19. Proektirovanie i izgotovlenie yuvelirny`x izdelij : uchebnoe posobie / I. A. Gruzdeva, E. V. Denisova, O. I. Il`ves, V. M. Karpov ; nauch. red. T. B.

Mixajlova. – Ekaterinburg : Izdatel`stvo Ural`skogo universiteta, 2021. – 124 s. – ISBN: 978-5-7996-3197-0. – Tekst : neposredstvenny`j.

20. Rabochie programmy` disciplin 54.03.02 Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly` : prikaz Minobrnauki Rossii ot 13 avgusta 2020 g. № 1010. – Tekst : e`lektronny`j // FGOS : obrazovatel`naya-inforimacionnaya sistema. – URL: https://fgos.ru/fgos/fgos-54-03-02-dekorativno-prikladnoe-iskusstvo-i-narodnye-promysly-1010/ (data obrashheniya: 12.06.2026).

21. Salty`kova, G. M. Kursovoe proektirovanie : uchebno-metodicheskoe posobie / G. M. Salty`kova. – Moskva : Vlados, 2017. – 42 s. – ISBN 978-5-907013-09-4. – Tekst : neposredstvenny`j.

22. Sevryukova, N. V. Programma «Osnovy` kompozicii» : special`nost` «Yuvelirnoe iskusstvo» / N. V. Sevryukova. – Sankt-Peterburg : VShNI, 2013. – 24 s. – Tekst : neposredstvenny`j.

23. Sevryukova, N. V. Programma «Special`naya kompoziciya» : special`nost` «Yuvelirnoe iskusstvo» / N. V. Sevryukova. – Sankt-Peterburg : VShNI, 2013. – 22 s. – Tekst : neposredstvenny`j.

24. Sevryukova, N. V. Proektirovanie yuvelirny`x izdelij : (programma dlya xudozhestvenny`x vuzov i kolledzhej) / N. V. Sevryukova. – Tekst : neposredstvenny`j // Izobrazitel`noe iskusstvo v shkole. – 2011. – № 6. – S. 41-46.

25. Sevryukova, N. V. Tradicionny`e yuvelirny`e ukrasheniya i sovremenny`j dizajn : uchebno-metodicheskoe posobie dlya studentov special`nosti 052300 «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`» (specializaciya «Yuvelirnoe iskusstvo») / N. V. Sevryukova. – Moskva : Pedagogika, 2002. – 95 s. – Tekst : neposredstvenny`j.

26. Sikorskaya M. I. Silue`tnaya grafika v prosechnom metalle : uchebno-metodicheskoe posobie dlya samostoyatel`nogo vy`polneniya prakticheskix rabot po discipline «Proektirovanie», napravlenie podgotovki 54.03.02 Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`, profil` podgotovki – Xudozhestvenny`j metall / M. I. Sikorskaya, N. A. Yashmanov ; Ministerstvo obrazovaniya i nauki Rossijskoj Federacii, Federal`noe gosudarstvennoe byudzhetnoe obrazovatel`noe uchrezhdenie vy`sshego obrazovaniya Sankt-Peterburgskaya gosudarstvennaya xudozhestvenno-promy`shlennaya akademiya im. A. L. Shtiglicza, Kafedra xudozhestvennoj obrabotki metalla. – Sankt-Peterburg : SPGXPA im. A. L. Shtiglicza, 2017. – 77 s. – Tekst : neposredstvenny`j.

27. Smekalova, A. A. Integracionny`j podxod k obucheniyu studentov yuvelirnomu iskusstvu. – Tekst : e`lektronny`j // Nauchny`j dialog. – 2016. – №12 (60). – S. 415-425. – URL: https://cyberleninka.ru/article/n/integratsionnyy-podhod-k-obucheniyu-studentov-yuvelirnomu-iskusstvu (data obrashheniya: 12.06.2026).

28. Ural`skij gosudarstvenny`j arxitekturno-xudozhestvenny`j universitet : oficial`ny`j sajt. – URL: https://usaaa.ru/ (data obrashheniya: 13.06.2026). – Tekst : e`lektronny`j

29. Churakova, M. V. Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`, vid «Xudozhestvenny`j metall (yuvelirnoe iskusstvo)» /

M. V. Churakova. – Sankt-Peterburg : VShNI, 2018. – 27 s. – Tekst : neposredstvenny`j.

30. Churakova, M. V. Obuchenie renovacii v yuvelirnom iskusstve : uchebnoe posobie dlya samostoyatel`noj vneauditornoj raboty` studentov, obuchayushhixsya po programme srednego professional`nogo obrazovaniya : napravlenie «Dekorativno-prikladnoe iskusstvo i narodny`e promy`sly`», profil` «Xudozhestvenny`j metall» (yuvelirnoe iskusstvo) / M. V. Churakova ; Ministerstvo nauki i vy`sshego obrazovaniya Rossijskoj Federacii, Vy`sshaya shkola narodny`x iskusstv (akademiya). – 2-e izd. – Sankt-Peterburg : VShNI, 2021. – 60 s. : il. – Bibliogr.: s. 57-59. – ISBN 978-5-907542-35-8. – Tekst : neposredstvenny`j.

31. Churakova M. V. Texnicheskij risunok : uchebnoe posobie dlya SPO / M. V. Churakova. – Sankt-Peterburg : VShNI, 2018. – 27 s. – Tekst : neposredstvenny`j.

32. Churakova M. V. Texnologiya izgotovleniya yuvelirny`x izdelij : uchebnoe posobie dlya auditornoj i vneauditornoj raboty` studentov, obuchayushhixsya po programme srednego professional`nogo obrazovaniya, special`nost` 54.02.02 / M. V. Churakova. – Sankt-Peterburg : VShNI, 2020. – 54 s. – ISBN 978-5-907193-45-1. – Tekst : neposredstvenny`j.

33. Churakova M. V. Formirovanie professional`nogo masterstva xudozhnikov-yuvelirov v srednem professional`nom obrazovanii : monografiya : [v 2-x chastyax]. Ch. 1 / M. V. Churakova ; Ministerstvo nauki i vy`sshego obrazovaniya Rossijskoj Federacii, Vy`sshaya shkola narodny`x iskusstv (akademiya). – Sankt-Peterburg : VShNI, 2020. – 101 s. – ISBN 978-5-907193-68-0. – Tekst : neposredstvenny`j.

34. What Is a Jewelry Render? – Tekst : e`lektronny`j. // Advanced Rendering Servicec for Jewely Businesses. – URL: https://sarkissian.pro/rendering-basics/what-are-jewelry-renders-beginners-guide/ (data obrashheniya: 27.05.2026).