MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Odesa state academy of civil engineering and architecture

EDUCATIONAL AND SCIENTIFIC PROGRAMME

Architecture of buildings and structures
second (master's) level of higher education
in the speciality 191 Architecture and urban planning
fields of knowledge 19 Architecture and construction
Qualification: Master of Architecture and Urban Planning

APPROVED
By the Academic Council of the Odesa State
Academy of Civil Engineering and Architectur
Protocol 11 of 26.05.2022

Odesa - 2022

INTRODUCTION

1. DEVELOPED BY

The educational and scientific programme Architecture of Buildings and Structures in the specialty 191 Architecture and Urban Planning for the second (master's) level of higher education was developed in accordance with the Standard of Higher Education of the second (master's) level in the specialty 191 Architecture and Urban Planning, field of knowledge 19 Architecture and Construction, 2022, by the working group of the Odesa State Academy of Civil Engineering and Architecture:

Yaremenko Irina	Candidate of Architecture, Professor of the Department of Architecture of Buildings and Structures at the Odesa State Academy of Civil Engineering and Architecture, guarantor of the EP, Team Leader
Kharitonova Alina	Candidate of Architecture, Associate Professor of the Department of Architecture of Buildings and Structures at the Odesa State Academy of Civil Engineering and Architecture
Malashenkova Victoria	PhD in Architecture, Associate Professor of the Department of Architecture of Buildings and Structures at the Odesa State Academy of Civil Engineering and Architecture
Dunaevsky Yevhen	postgraduate student, assistant professor of the Department of Architecture of Buildings and Structures at the Odesa State Academy of Civil Engineering and Architecture
Kravtsov Dmitriy	PhD in Architecture, Assistant Professor of the Department of Architecture of Buildings and Structures at the Odesa State Academy of Civil Engineering and Architecture
Bazan Mykola	Director, Chif Architect of the design and construction firm Master Group LLC, member of the National Union of Architects of Ukraine, stakeholder

2. APPROVED AND ENTERED INTO FORCE

By the Academic Council of the Odesa State Academy of Civil Engineering and Architecture, Protocol 11 of 26.05. 2022

3. IMPLEMENTED from 01 September 2022
to replace the Educational and Scientific Programme Architecture of Buildings and Structures, speciality 191 Architecture and Urban Planning for the second (master's) level of higher education, approved by the Academic Council of the Academy in 2021, Minutes No. 7 of 29.04.2021.

4. INFORMATION ON ACCREDITATION
Certificate of accreditation **of the educational programme** A4396, valid until 01.07.2028.

1. Profile of the educational and scientific programme
Architecture of buildings and structures
speciality 191 Architecture and urban planning

1 – General information	
Full name of the higher education institution and structural unit	Odesa State Academy of Civil Engineering and Architecture, Institute of Architecture and Art, Department of Architecture of Buildings and Structures
Degree of higher education and title of qualification in the original language	Second (master's) level Master of Architecture and Urban Planning
Official name of the study programme	Educational and scientific programme Architecture of buildings and structures
Type of diploma and scope of the study programme	Master's degree, single. The volume of the educational programme is 120 ECTS credits
Availability of accreditation	Certificate of accreditation **of the educational programme** A4396, valid until 01.07.2028.
Cycle / level	NQF of Ukraine - level 7, QF-EHEA - second cycle, EQF-LLL - level 7
Prerequisites	Bachelor's degree, specialist's degree. EMI in a foreign language and an exam in the speciality
Language of instruction	Ukrainian, English
The validity of the of the educational programme	Until the following version comes into force
Internet address for permanent posting of the educational programme description	ONP_ABS_2022__m_1.pdf
2 – Objective of the study programme	
Training of highly qualified specialists for creative design and research activities in the field of architecture and urban planning, who are capable of designing buildings and structures for various purposes, scientific and innovative activities in the field of architecture, are creative in solving professional problems of various levels of	

complexity, are able to solve problems in a comprehensive manner, using modern methods, technologies and materials.	
3 – Characteristics of the educational programme	
Subject area (field of knowledge, speciality, specialisation)	Field of study 19 Architecture and construction Speciality 191 Architecture and urban planning
Orientation of the of the educational programme	Educational and scientific, focused on architectural design and research activities, applied
Main focus of the study programme and specialisation	Professional education in the field of architecture and construction, focusing on the training of specialists and researchers in architecture. Keywords: architecture; buildings and structures; architectural design; urban planning; design of buildings and structures; typology of buildings and structures.
Features of the programme	The programme is based on modern world achievements in the architecture of buildings and structures and covers disciplines that combine theoretical knowledge with practical skills and abilities for future professional activities. Famous practicing architects and teachers are involved in the teaching process. Students learn to design buildings and structures for various purposes; have the opportunity to engage in practical activities through participation in architectural competitions, exhibitions, design seminars; participate in research, conferences, student competitions, and academic competitions on architectural and construction topics. Under the cooperation programme, master's students have the opportunity to study at the École nationale supérieure d'architecture de Marseille in Marseille, France, and receive a double degree. The programme is valid for 5 years from 22 June 2018. https://www.marseille.archi
4 – Suitability of graduates for employment and further education	
Suitability for employment	According to the current National Classification of Professions of Ukraine (DK 003:2010 with amendments), masters of architecture and urban planning can hold the following positions: 2141.1 Junior researcher (architecture, urban planning); Researcher (architecture, urban planning); Researcher-consultant (architecture, urban planning). 2141.2 Architect; Architect for the restoration of architectural monuments and urban planning;

	Design engineer (urban planning). 2142.1 Junior researcher (construction); Researcher (construction); Researcher-consultant (construction). 2310.2 Teacher of a higher education institution. 2320 Teacher in a vocational educational institution; Teacher of a vocational school. 2452.1 Research designer. 2452.2 Interior designer. 2310.1 Doctoral student; Associate professor. 2310.2 Assistant. Places of work: architectural workshops, design studios, educational institutions, government agencies, etc. Occupations and professional job titles according to the International Standard Classification of Occupations 2008 (ISCO-08): 216: Architects
Further training	He has the right to study Doctor of Philosophy programmes (according to the third cycle of FQ-EHEA, EQF-LLL level 8 and HPK level 8 programmes of Ukraine), interdisciplinary programmes related to architecture and urban planning.
5 – Teaching and assessment	
Approaches to teaching and learning	The approaches used in teaching include the methods and technologies of modern learning provided by the educational program, namely: student-centered learning, self-study, problem-based learning, independent work of students, including individual tasks: course projects, term papers, calculation and graphic works, tests; professional practice. The main teaching methods are explanatory and illustrative, problem-based, research, and visualization. Teaching methods are implemented in the educational process in accordance with the level of higher education, specialty and goals of the educational program, taking into account the Mission and goals of educational activities and the Development Strategy of the Odesa State Academy of Civil Engineering and Architecture. The formation of social skills (soft skills) of applicants occurs through the study of both general and professional components; participation in conferences with reports; competitions, competitions of student research papers, practical training, academic mobility, cultural and sports activities; other activities that are determined by the goals of the program, in particular the further professional activities of the program graduate.

	The overall organization of international cooperation and foreign economic activity is entrusted to the Department of International Relations. Higher education students enrolled in the educational and professional program are provided with - educational support in the context of issues directly related to the organization of learning and teaching, including the work of deans' offices, departments for the organization of the educational process, other auxiliary units of the Academy and their interaction with applicants - advisory and social support in the relevant areas (employment counseling, psychological support, etc.) - organizational and informational support in the relationship between applicants and the Academy on administrative issues (obtaining information, certificates, confirmations, etc.); - information interaction of higher education applicants on educational and extracurricular issues, including the availability of relevant information in the public domain (schedule, consultations, other information on the official website of the Academy). Teaching is conducted in the form of: lectures, lectures-presentations using information and communication technologies, practical classes, practical workshops (including with the involvement of practicing artists, specialists in other creative specialties), practical training, independent study based on modern scientific and methodological literature and consultations of teachers. There are also opportunities for learning and teaching using distance learning technologies (including Google Workspace, Moodle).
Methods assessment	The system for assessing the quality of the educational and professional program includes: current and final (semester) control, certification. Current control is carried out in practical classes (oral or written questioning, express control, speeches of applicants during the discussion of issues, control works, test control, presentations, etc.) The final control is carried out in the form of an exam or test, defense of course projects (works), defense of practice reports. The certification of higher education students is carried out in the form of a public defense of qualification work. The academic achievements of higher education students are assessed on a 100-point scale and the ECTS scale.

6 - Programme competences	
Integral competence(IC)	IC1 Ability to solve research and/or innovation problems in the field of architecture and urban planning
General competences (GC)	GC1. Ability to think abstractly, analyse and synthesise. GC2. Ability to communicate in the state language both orally and in writing. GC3. Ability to communicate in a foreign language. GC4. Ability to use information and communication technologies. GC5. Commitment to environmental protection. GC6. Ability to act on the basis of ethical considerations (motives). GC7. Knowledge and understanding of the subject area and understanding of professional activities. GC8. Ability to communicate with representatives of other professional groups of different levels (with experts from other fields of knowledge/ types of economic activity).
Special (professional) competences defined by the Higher Education Standard (HES)	SC1. Ability to integrate knowledge and solve complex problems of architecture and urban planning in broad or multidisciplinary contexts. SC2. Ability to solve problems of architecture and urban planning in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility. SC3. Ability to analyse, develop and implement architectural and urban planning solutions, taking into account socio-demographic, national-ethnic, natural and climatic, engineering and technical factors, as well as sanitary, hygienic, safety, energy-saving, environmental, technical and economic requirements. SC4. Ability to continue learning with a high degree of autonomy. SC5. Ability to develop and implement projects in the field of architecture and urban planning. SC6. Ability to analyse international and domestic experience, collect, accumulate and use information necessary for solving research and innovation problems in the field of architecture and urban planning. SC7. Ability to project modelling and research of conceptual, full-scale and computer models of architecture and urban planning objects. SC8. Ability to develop tasks for architectural and urban planning design, organise the design process using data from

	field surveys, measurement work, urban planning calculations of the design object. SC9. Ability to manage work processes in the field of architecture and urban planning that are complex, unpredictable and require new strategic approaches. SC10. Ability to generate new ideas and develop innovative solutions in the field of architecture and urban planning. SC11. Ability to critically reflect on the problems of architecture and urban planning. SC12. Ability to plan and carry out scientific and applied research in the field of architecture and urban planning. SC13. Ability to carry out research and teaching activities in higher education institutions.
Special (professional) competences defined by the higher education institution (SC)	SC14. Ability to perform pre-design analysis and develop projects of residential, public, industrial facilities, urban planning facilities of local type, landscape facilities, interior design and other types of architectural environment in new construction, as well as in the reconstruction and renovation of architectural and urban planning facilities. SC15. Ability to combine independent and collective work, development of the architectural and urban planning part of the project with the activities of specialists in related fields to ensure a comprehensive and high-quality solution to professional problems. SC16. Ability to develop design solutions for the use and preservation of historical buildings, based on theoretical knowledge in the field of reconstruction and renovation of architectural and urban planning objects. SC17. The ability to make rational architectural and design decisions about the interiors of premises for various purposes based on the use of artistic, functional, construction, ergonomic components that create the interior environment. SC18. Ability to perform scientific, technical documentation using information technology, production of models and visual illustrative materials for architectural and urban planning conceptual, experimental projects of new construction, reconstruction and restoration of existing facilities
7 – Programme learning outcomes	
Programme learning outcomes, defined by the Higher Education Standard (PLO)	PLO1. Possess specialised conceptual knowledge that includes modern scientific achievements in the field of architecture and urban planning and is the basis for original thinking and research. PLO2. Possess specialised problem-solving skills necessary to conduct research and/or conduct innovative activities in the field

	of architecture and urban planning in order to develop new knowledge and procedures. PLO3. Carry out pre-project analysis of architectural and urban planning objects and territories. PLO4. Understand and apply in practice the theoretical and practical principles of designing innovative urban planning objects, residential, public, industrial buildings and structures, reconstruction and restoration of architectural objects, methods of achieving rational architectural and planning, volumetric-spatial, constructive solutions, ensuring socio-economic efficiency, environmental friendliness, energy efficiency. PLO5. Know, understand and evaluate the characteristics of modern building materials, products and technologies, take into account their features when developing innovative design solutions for buildings and structures, in projects for the improvement of urban and landscape areas, in the reconstruction and restoration of architectural and urban planning monuments. PLO6. Ensure the harmonisation of architectural objects and the built environment, in particular by applying the principles and methods of the theory of architectural environment design. PLO7. Carry out project modelling, choose digital technologies and software tools to solve research and innovation problems, develop and implement projects in the field of architecture and urban planning, prepare relevant scientific and technical documentation, make models and visual illustrative materials. PLO8. Organise work on complex architectural and urban planning projects, cooperation with customers and the public in the development, approval and public discussion of architectural projects; clearly communicate own conclusions and arguments to specialists and non-specialists. PLO9. Apply energy-efficient and other innovative technologies when conducting scientific architectural and urban planning research and making complex architectural and urban planning decisions. PLO10. Discuss the results of professional activities, research and innovative projects in the field of architecture and urban planning in the state and foreign languages orally and in writing. PLO11. Make effective decisions in the field of architecture and urban planning, develop and compare alternatives, take into account constraints, assess possible side effects and risks. PLO12. Know and apply in practice the legislation and regulatory framework for research and development of architectural and urban planning projects.

	PLO13. Justify safety, sanitary and hygienic, environmental, engineering and technical, technical and economic solutions and indicators in complex architectural and urban planning design. PLO14. To supervise the implementation of projects in the field of architecture and urban planning. PLO15. Analyse international and domestic experience in the design of architectural and urban planning objects. PLO16. Plan and carry out research in the field of architecture and urban planning. PLO17. To teach special disciplines in architecture and urban planning in higher education institutions.
Programme learning outcomes, defined by the higher education institution (PLO)	PLO18. Determine methods of implementing a creative task, taking into account the solution of complex architectural and artistic, functional, planning, structural and technological problems. Achieve the completion of all stages of architectural and urban design, development of all sections of the complex project and explanatory note in due time. PLO19. Analyse the urban planning historical context of the environment; apply the acquired theoretical knowledge on the problems of reconstruction and renovation of historical buildings in the development of architectural and urban planning project documentation; use optimal solutions in the field of reconstruction of urban areas and architectural objects. PLO20. Know the features of scientific research methods - general, interdisciplinary, disciplinary, criteria for their selection in accordance with the task, stages of scientific research. Know the methods of displaying the used research methods in graphical form. PLO21. Know the basics of typological analysis, classification methods. Be able to identify the main factors influencing the formation of typological features of architectural objects. Have an idea of the structure of typological research, including urban planning, functional planning, volumetric and compositional, stylistic and other aspects.
8 – Resource support for programme implementation	
Personnel support	Academic staff involved in the implementation of the educational program work at the main place of work at the Academy, have an academic title and/or degree, meet the requirements of licensing and accreditation conditions for the implementation of educational activities in the field of higher education (Resolution of the Cabinet of Ministers of Ukraine "On Ensuring Licensing Conditions for the Implementation of Educational Activities of Educational Institutions" of December 30, 2015, No. 1187, as amended).

	In order to maintain competence at the proper level, all academic staff undergo advanced training/internships.
Material and technical support	The material and technical support of the Odesa State Academy of Civil Engineering and Architecture complies with the Licensing Conditions for Educational Activities in Higher Education and is sufficient to ensure the quality of the educational process under the educational and professional program, which includes: workshops, classrooms, computer and specialized classrooms, library, reading rooms, gyms, assembly hall, sports ground, recreation center, canteens, and simple shelters.
Information and educational support	Use of electronic resources: electronic catalog, electronic library, Internet resources, Open Access, the Academy's website, bibliographic resources, the Academy's repository (OSACEAeR http://mx.ogasa.org.ua/), Google Workspace and author's educational and methodological developments of scientific and pedagogical staff. There is a licensed version of the database of normative literature BudInfo.
9 – Academic mobility	
National credit mobility	It is carried out on the basis of bilateral agreements between the Academy and higher education institutions of Ukraine and existing national programs. It provides for the transfer of ECTS credits of the relevant educational program received in other higher education institutions of Ukraine.
International credit mobility	International credit mobility is carried out on the basis of agreements: 1) Programme ERASMUS+ number 2017-1-HR01-KA107-035074, Polytechnic in Pozega (Pozega, Serbia), project Erasmus+, KA1 – Learning Mobility of Individuals 2) Programme ERASMUS+, number 2017-1-RO01-KA107-035813. University of Pitesti (Pitesti, Romania), project Erasmus+, KA1 – Learning Mobility of Individuals 3) Double degree programme based on cooperation with the Higher National School of Architecture in Marseille, France (École nationale supérieure d'architecture de Marseille) (valid for 5 years from 2 June 2018) 4) Academic mobility programme MEVLANA, Turkey. https://odaba.edu.ua/international-activities/international-programs-and-projects
Training of foreign students higher education	The training of foreign applicants in the educational and professional program Industrial and Civil Engineering is carried out on the basis of the Order of the Ministry of Education and

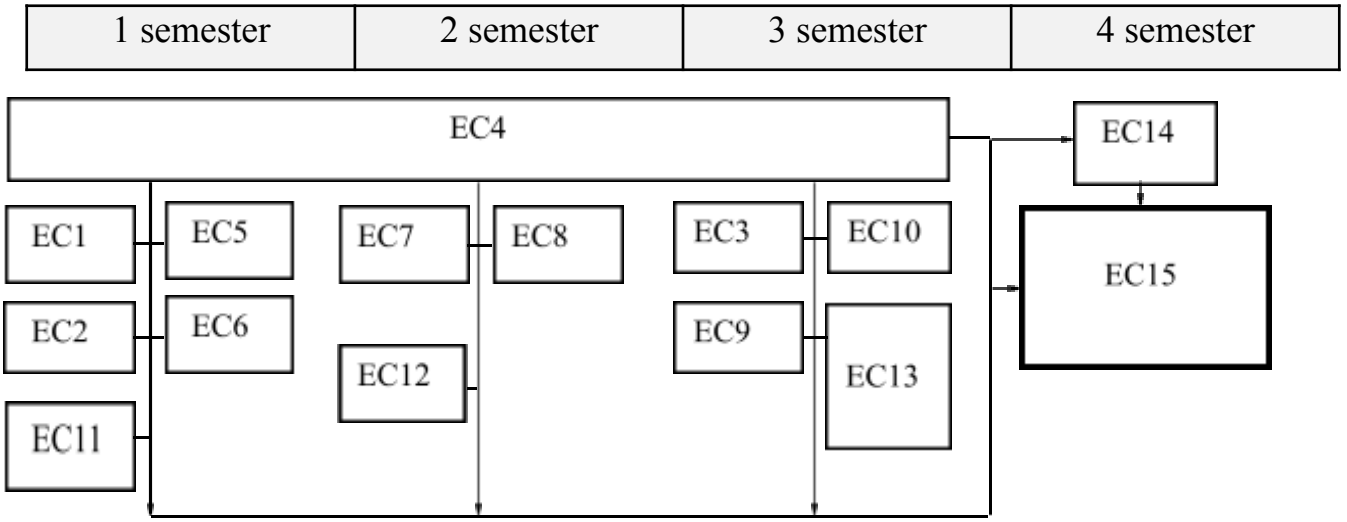
	Science of Ukraine dated 18.07.2019 No. 944-l and in accordance with the Rules of Admission to the Odesa State Academy of Civil Engineering and Architecture and the relevant Regulations of the Center for Training of Specialists from Foreign Countries. Languages of instruction - Ukrainian, English

2. List of components of the of the educational and scientific programme and their logical sequence

2.1 List of components of the ESP

Code EC	Components of the educational programme (academic disciplines, internships, qualification work)	Number of credits ECTS	Form of final control
1	2	3	4
MANDATORY COMPONENTS OF THE ESP			
Total components – 9,0 credits			
EC 1	Foreign language	3,0	credit
EC 2	Energy saving in architecture and urban planning	3,0	exam
EC 3	Environmental justification of architectural and construction solutions	3,0	credit
Special (professional) components – 45,0 credits			
EC 4	Conceptual architectural design	22,5	credit
EC 5	Modern building materials and structures	3,0	exam
EC 6	Computer modelling	3,0	credit
EC 7	Urban planning aspects of architectural design	3,0	exam
EC 8	Problems of reconstruction and renovation of historic buildings	3,0	credit
EC 9	Modern problems of architecture and urban planning	3,0	credit
EC 10	Organisation and management of design and construction	3,0	exam
EC 11	Project and research practice	4,5	credit
Research components – 36,0 credits			
EC 12	Fundamentals of typological analysis in architecture and urban planning	3,0	credit
EC 13	Methods of scientific research in architecture	3,0	credit
EC 14	Pre-graduation practice	6,0	credit
EC 15	Qualification (master's) thesis	24,0	public defence
Total amount of mandatory components		90,0	
SELECTIVE COMPONENTS OF THE ESP			
Total components – 6,0 credits			
SC 1	Elective courses	3,0	credit
SC 2	Elective courses	3,0	credit
Special (professional) components – 24,0 credits			
SC 3	Elective courses	4,0	credit
SC 4	Elective courses	4,0	credit
SC 5	Elective courses	4,0	credit
SC 6	Elective courses	4,0	credit
SC 7	Elective courses	4,0	credit
SC 8	Elective courses	4,0	credit
Total volume of selected components		**30,0**	
TOTAL VOLUME OF ESP		**120,0**	

2.2 The structure and logic diagram of the ESP



3. Form of certification of applicants for higher education of the educational and scientific programme Architecture of buildings and structures

The certification of graduates of the educational and scientific programme Architecture of Buildings and Structures, speciality 191 Architecture and Urban Planning is carried out in the form of a public defence of a qualifying diploma thesis before an examination committee chaired by a leading scientist or representative of an enterprise or organisation in the field of architecture. The certification ends with the issuance of a master's degree diploma with the qualification Master of Architecture and Urban Planning.

The qualification work involves solving a research and/or innovation problem in the field of architecture and urban planning and developing an architectural project on this topic. The qualification work must not contain academic plagiarism, falsification, or fabrication.

The qualification work is posted in the repository of the higher education institution.

The qualification work is defended in the state language.

4. Compliance matrices

4.1 Matrix of correspondence of programme competences and educational components

	EC 1	EC 2	EC 3	EC 4	EC 5	EC 6	EC 7	EC 8	EC 9	EC 10	EC 11	EC 12	EC 13	EC 14	EC 15
GC1		+	+	+	+	+	+	+	+	+	+	+	+	+	+
GC2		+	+	+	+		+	+	+		+	+	+	+	+
GC3	+			+			+	+	+			+	+		+
GC4		+	+	+	+	+	+	+	+	+	+	+	+	+	+
GC5		+	+	+	+		+	+	+		+	+	+	+	+
GC6				+			+	+	+		+	+	+	+	+
GC7		+	+	+	+	+	+	+	+	+	+	+	+	+	+
GC8	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SC1		+	+	+	+	+	+	+	+		+	+	+	+	+
SC2		+	+	+		+	+	+	+		+	+	+	+	+
SC3		+	+	+	+	+	+	+	+	+	+	+	+	+	+
SC4	+			+		+						+	+		+
SC5		+	+	+	+	+	+	+	+	+	+			+	+
SC6	+			+		+	+	+	+		+	+	+	+	+
SC7				+		+	+	+	+		+	+	+	+	+
SC8				+		+	+		+		+	+	+	+	+
SC9		+	+	+	+	+	+	+	+	+	+	+	+	+	+
SC10		+	+	+	+	+	+	+	+		+	+	+	+	+
SC11				+			+	+	+		+	+	+	+	+
SC12				+						+	+	+	+	+	+
SC13				+			+	+	+			+	+		+
SC14				+	+	+	+	+	+		+	+	+	+	+
SC15		+	+	+	+					+	+			+	+
SC16				+				+			+		+	+	+
SC17		+		+	+				+		+	+	+	+	+
SC18				+		+		+				+	+		+

4.2 Matrix for ensuring programme learning outcomes (PLOs) with relevant educational components

	EC 1	EC 2	EC 3	EC 4	EC 5	EC 6	EC 7	EC 8	EC 9	EC 10	EC 11	EC 12	EC 13	EC 14	EC 15
PLO 1		+	+	+	+	+	+	+	+		+	+	+	+	+
PLO 2				+		+	+	+	+			+	+		+
PLO 3				+			+	+	+			+	+		+
PLO 4		+	+	+	+	+	+	+	+	+	+	+	+	+	+
PLO 5				+	+			+			+				+
PLO 6				+					+		+			+	+
PLO 7				+		+	+				+	+	+	+	+
PLO 8	+	+	+	+	+	+	+	+	+	+	+			+	+
PLO 9		+	+	+	+		+				+	+	+	+	+
PLO 10	+			+							+	+	+	+	+
PLO 11		+	+	+	+		+	+	+	+	+	+	+	+	+
PLO 12				+			+	+	+		+	+	+	+	+
PLO 13		+	+	+	+		+	+	+	+	+	+	+	+	+
PLO 14				+							+			+	+
PLO 15	+			+			+	+	+		+	+	+	+	+
PLO 16				+		+			+			+	+		+
PLO 17	+	+	+	+	+	+	+	+	+			+	+		+
PLO 18				+	+	+				+	+	+	+		+
PLO 19				+			+	+	+			+	+		+
PLO 20						+						+	+		+
PLO 21												+	+		+

List of regulatory documents,
on which the study programme is based

1. Law of Ukraine On Higher Education № 1556-VII of 01.07.2014.
URL: http://zakon5.rada.gov.ua/laws/show/2145-19.

2. Law of Ukraine On Education № 2145-VIII of 05.09.2017.
URL: http://zakon5.rada.gov.ua/laws/show/2145-19.

3. Licensing conditions for conducting educational activities. Resolution of the Cabinet of Ministers of Ukraine 30.12.2015. № 1187
URL: https://zakon.rada.gov.ua/laws/show/1187-2015-%D0%BF#Text

4. National Classifier of Ukraine: Classification of Economic Activities Національний класифікатор України: ДК 009: 2010
URL: https://zakon.rada.gov.ua/rada/show/vb457609-10#Text

5. National Qualifications Framework.
URL: https://nqa.gov.ua/national-qualification-frame/

6. National classifier ДК 003:2010 Classification of professions.
URL: https://zakon.rada.gov.ua/rada/show/va327609-10#Text

7. Standart vyshchoy osvyty drugogo (magisterskogo) rivnya za spetsyalnistyu 191 Arhytektura ta mistobuduvannya galuzy znan 19 Arhytektura ta budivnytstvo, 2022
https://mon.gov.ua/storage/app/media/vishcha-osvita/zatverdzeni%20standarty/2022/05/10/191-Arkh.ta.mistbud.mah.418-09.05.2022.pdf