SHEI «PRYDNIPROVSKA STATE ACADEMY OF CIVIL ENGINEERING AND ARCHITECTURE»

APPROVED by
Academic Board of SHEI «Prydniprovska State Academy of Civil Engineering and Architecture»
protocol № 14 of 05, July, 2018

Head of Academic Board of SHEI PSACEA, rector

_____V. I. Bolshakov

EDUCATIONAL AND PROFESSIONAL PROGRAMME

«ARCHITECTURE AND URBAN PLANNING»

SHE PSACEA 191 b – 2018

KNOWLEDGE AREA	**19 «Architecture and construction»**
SPECIALTY	**191 «Architecture and urban planning»**
ACADEMIC DEGREE	**first (Bachelor's) degree**

Dnipro – 2018

PREFACE

ELABORATED by
working party including:

Vorobiov Viktor Vasylovych – Cand.(Arch.), Ass. Prof., Department of Architectural Engineering and Design
Havrylov Ivan Mykolaiovych – Cand.(Arch.), Prof., Department of Architectural Engineering and Design
Chelnokov Oleksandr Vasylovych – Cand.(Arch.), Ass. Prof., Dean of Architectural Faculty, Prof., Department of the Principles of Architecture
Shvets Iryna Anatoliivna – Assistant Professor, Department of Architectural Engineering and Design

RESOLVED by
Education Board of Architectural Faculty, Specialty 191 «Architecture and Urban Planning» protocol № 6 of 14, June, 2018

APPROVED by
Academic Board of SHEI PSACEA protocol № 14 of 05, July, 2018

I. INTRODUCTION

Educational and professional programme is used for:

- Licensing and certification of the specialty;
- Compiling curricula and academic course working plans;
- Compiling curricula, plans for practical trainings, individual studies;
- Compiling individual education plans of students;
- Elaborating diagnostic methods for the quality of higher education;
- Assessment of higher education applicants;
- Determination of the contents of studies in the system of repreparation and advanced training;
- Professional orientation in specialty;
- External control of the quality of specialists;

Users of educational and professional programme:

- Applicants for higher education studying at the Academy;
- Academic staff preparing specialists according to the specialty 191 «Architecture and urban planning»;
- Examination board on the specialty 191 «Architecture and urban planning»;
- Admission Committee of the Academy.

Educational and professional programme is available for the departments of the Academy that prepare students to get Bachelor'degree in specialty 191 «Architecture and Urban Planning».

Notes used in educational and professional programme

NQF – National Qualification Frame;
GC – General competencies;
GR– General results;
PC – Professional competencies;
PR – Programme results;
GD– General disciplines;
ED – Elective disciplines;
TPr – Term project;
TP – Term paper.

II. GENERAL INFORMATION

Official name of educational and professional programme	«Architecture and urban planning»
Academic degree	First (Bachelor's) degree.
Higher education degree	Master
Knowledge area	19 «Architecture and Construction»
Specialty	191 «Architecture and Urban Planning»
Accreditation	Initial in 2020
Educational qualification	Bachelor, Architect
Qualification in diploma	Architect
Type of diploma	Bachelor's diploma
Term of studying	3 years 10 months
ECTS credits	240 ECTS credits
Cycle/level	7th level FQ-EHEA – the first cycle, EQF-LLL – 6th level
Preconditions	Complete secondary education
Purpose of programme	
To ensure Bachelors'training in the field of architecture and urban planning by their getting basic competencies adequate to elaborate the projects for various purposes under the supervision of the chief architect. Bachelor is the first professional qualification, a graduate is prepared to master Master's programmes in specialty «Architecture and urban planning»as well as Master's programmes in the field of construction and study of art.	

III. Characteristics of educational and professional programme

Description of topical area	Activity of making architectural objects, projects in planning and urban land improvement, construction of buildings and structures, architectural-building control making and supervision of construction; objects of architectural activity – houses and structures for residential, communal, industrial and other purposes, their complexes, projects of improvement, garden-park and landscape architecture, monumental and monumental-ornamental art, administrative areas. Bachelor's degree in architecture forms the principles of design thinking and acts as the process where requirements and purposes are integrated into expert, creative ability but competences are constantly tested, modified and optimized. The programme is based on a wide scope of courses with the

	balance between giving knowledge and practical experience that give a critical understanding of the interaction of various disciplines in the processes of planning and construction. The course familiarises students with key fields of practical training and the theory of architecture, grounds and approaches to architecture and urban planning, - such knowledge are critically depicted and realised in designing. Methodological clearness and conceptual thinking are the one of main competences presented in the programme of an architect.
Programme focus	The first level of higher architectural education is oriented in the formation of basic knowledge and competences in the field of architecture and urban planning, getting skills in comprehensive designing, construction, urban planning. Combination of artistic, creative, engineering-technological, social-economic fields of knowledge provides the understanding of architectural tasks in society and economics. Bachelor's programme in architecture provides a wide basic education directed at long-term knowledge enabling for graduates to get an extra qualification in the context of corresponding Master's programme as well as to work in such fields: • cooperation in the field of architectural design and urban planning, fulfilment and presentation of designs. • decision-making, planning and fulfilment. • activity in various creative fields where dimensional thinking and process orientation are necessary
Programme orientation	Practically oriented, applied.
Academic rights of graduates	Levels EQF-LLL 7, 8 – educational and professional and scientific programmes for Master in specialty Architecture and urban planning. Educational Master's programmes in related fields of construction, urban economy, art studies as well as economy and management. Studies during life for the development and self-improvement in a professional field as well as related knowledge areas.
Job placement of graduates	According to the national classifier of Ukraine «Classifier of professions 003:2010»: Types of economic activity in architecture – К.74.20.1 (code 71.11). Specialist should fulfil a professional work: architect and urban planner - 2141.2 (under the supervision of professional architect of the 1st or 2nd); technician in architectural design – 3112. Available positions: architect, designer of the 2nd category. According to «International Standard Classification of Occupations 2008 (ISCO-08)»: Work under the supervision of professional architect: 21 Science and Engineering Professionals → 216 Architects, Planners, Surveyors and Designers → 2161 Building Architects, 2162 Landscape Architects, 2164 Town Planners, 2166 Graphic and Multimedia Designers. Individual work: 31 Science and Engineering Associate Professionals → 311 Physical and Engineering Science Technicians → 3112 Civil Engineering Technicians.

	34 Legal, Social, Cultural and Related Associate professionals → 343 Artistic, Cultural and Culinary Associate professionals → 3432 Interior designers and Decorators.
Features of the programme	Educational and professional programme includes disciplines that form knowledge of general-scientific and engineering disciplines as well as knowledge and skills of professionally oriented disciplines therethrough ensuring mastering more difficult Master's programmes. магістерських програм. In a curriculum a key discipline is distinguished – architectural designing as the most integral that distinguishes architectural education from the majority of specialties. Educational and professional programme must ensure the two leading purposes for architectural education: (a) preparation of competent, creative, critically thinking, ethically oriented professional designers in construction field; (b) preparation of the citizens of the world, intelligent, ecologically and socially responsible. Architecture studying is directed at responsible activities of students, it at the same time encourages them to find new ways in conceptual, creative and technical directions. Educational and professional programme is oriented in cooperation with other higher educational institutions of Ukraine, Ministry of Education and Science of Ukraine, Academy of Sciences of Ukraine, international universities and scientific schools. Professional organizations (e.g. National union of the architects of Ukraine) take part in the development of concepts and programmes on architectural education.

IV. List of competencies of a graduate

Integral competence	Ability to solve complicated special tasks and practical problems in the field of architecture and urban planning or during the studying process that foresees the application of certain theories and methods of relative science and characterized by complexity and uncertainty of conditions.

General competencies (GC)	(GC-1) ability to realise your rights and duties as a member of society, realize values of civil (free democratic) society and necessity of its constant development, rule of law, rights and freedom of humans and citizens of Ukraine; (GC -2) ability to keep and multiply moral, cultural, scientific values and achievement of society on the base of understanding history and regularities of the development of key field, its place in common system of knowledge about nature and society and in the development of of society, technics and technologies, to use various kinds of moving activity for active rest and health. (GC -3) skills to use computer technologies, ability to use the Internet as a source of communication. (GC -4) ability to study and master modern knowledge. (GC -5) ability to use knowledge in practical situations. (GC -6) personal skills of verbal, written and graphic means of giving information and social communication; ability to speak a state language both orally and in written. (GC -7) basic knowledge of key field and understanding the tasks of architectural activity. (GC -8) ability to the development of analytical and critical thinking. (GC -9) ability to abstract thinking, feeling the synthesis of ideas and forms. (GC -10) ability to accept and interpret the information in text, numeric, verbal and graphical forms. (GC -11) ability to act socially responsibly and consciously on the base of ethic motives.
Professional competencies (PC)	(PC-1) understanding of the interrelations between society and development, buildings and environment, understanding of the necessity of functional coordination of buildings and open spaces with needs and quantity of people. (PC -2) knowledge of modern and historic works achieved the highest standards in architecture. (PC -3) knowledge of history and theory of architecture and related arts as well as technical and humanitarian sciences. (PC -4) erudition of building design, understanding of design and engineering problems connected with building design. (PC -5) ability to make architectural designs corresponding to aesthetic and technical requirements. (PC -6) ability to use information technologies and the Internet-resources (statistic, cartographic methods, database making etc. (PC -7) ability to interact with various audiences in oral, written and graphic forms, during defending process, discussion of architectural solutions. (PC -8) erudition of the best standards and achievements in architecture, design, fulfilled projects and education system. (PC -9) ability to evaluate critically statements and make corresponding conclusions.. (PC -10) ability to write in native language, use correctly different types of architectural references. (PC -11) critical awareness of interrelations of contemporary theory of architecture and practice and the architecture of the past. Knowledge of

	leading home and international experience in designing and construction. (PC -12) cooperativity, team work as well as in international environment. (PC -13) awareness of practical potential of new technologies, types and properties of building materials and structures. (PC -14) understanding of complexity of designing, constructive systems, construction methods, technical means for designing and construction, rules and standards of labour protection and fire protection, engineering problems in area planning. (PC -15) knowledge of standards in designing, construction and project maintenance, regulations, orders, methodical aids, project estimate standards. (PC -16) mastering the design methods and making engineering calculations; fulfilment of technical, ecological, artistic, economic, social requirements to project designing.

V. Programme results

Results of studying	Architect must achieve the highest level of competence in the following fields: protection of the monuments of architecture and their environment, social dwelling, urban planning, sound buildings and cities, design control, planning of cities and areas, resource control, landscape architecture and green architecture etc. Herewith, to extend the potential of professional participation of architects taking into account competitiveness with other professions The profile of an architect is complex as the architect must be able to think about people and their relations with space in different scales: from the scale of regional planning to architectural detail and vice versa. Architectural activity is formed on the base of modern theoretical and technological developments, it transforms them, strives for the balance between functional-technical and artistic constituents of architectural creativity. Educational profile of architects unites technical, social and humanitarian sciences into the ability to make a space and direct it at the interaction between humans. Results of architectural creativity can be socially approved as masterpieces not only works of technologies.. *In designing field*. PR-1. Ability to use imagination, think creatively, offer innovations and supervise a project. PR-2. Ability to collect information, foresee possible problems, analyse them and propose critical opinions as well as develop and formulate the strategy of actions. PR-3. Abilities to 3-D spatial thinking during design development. PR-4. Ability to coordinate contradictory factors, integrate knowledge and use skills during design solution development. *In field of information support for profession (use of knowledge complex)* PR-5. Erudition of notions, phenomena, interrelations, development processes of *cultural* and *artistic* space: - ability to act using knowledge of historic and cultural precedents in local and world architecture; - ability to act using knowledge of arts as a factor of the quality of architec-

	tural design; - understanding of the problems of the protection of architectural heritage and interaction with it; Awareness of the relations between architecture and other disciplines. PR-6. Erudition with notions, phenomena, processes in a *social sphere*: - ability to act using the knowledge of society, work with customers and users who are the exponents of society needs; - ability to make a design task formulating society needs, customers and users as well as to investigate and define functional demands for various types of architectural environment depending on context.; PR-7. Understanding of social context where the formation of architectural environment is planned, ability to take into account ergonomic and spatial demands as well as the problems of social justice and availability for all people; PR-8. Ability to act taking into account corresponding codexes regulating principles and standards of urban planning, designing, construction, health care, occupational health and safety and the rules of using architectural environment. PR-9. Erudition with notions, phenomena, processes in the field of *ecology*: - ability to act using the knowledge of natural systems and types of architectural environment; - understanding of the problems of nature protection and waste treatment; - knowledge of life cycle of different materials, understanding of ecological problems, ability to elaborate energy saving projects, knowledge of passive systems and their control; - ability to manage with the action of natural systems taking into account the risk of emerging natural catastrophes. PR-10. Understanding of history and practice of landscape architecture, urban planning, problems of area and national planning, their interactions of local and global demography and resources. PR-11. Erudition with the notions, phenomena, processes in the field of *engineering and technologies :* - understanding of structure technologies, materials and construction; - ability to act on the base of innovative, technical competence using the methods of building engineering and understanding of their development; - understanding of the processes of technical design and structure integration in efficiently functioning system; - understanding of the systems of urban infrastructure and transport systems, connection, service and safety; - understanding of the role of technical documentation and specifications in project fulfilment, planning processes of cost construction, control provision. PR-12. Erudition with *design methods*: - application of knowledge design theory and various methods - understanding of procedures and design projects; - knowledge of experience , design precedents and architectural critics. *In professional knowledge complex* PR-13. Ability to act on the base of knowledge of professional, financial, legal contexts and business conditions. - understanding of various forms of architectural services; - understanding of professional ethics and behaviour code relating architectural practice and juridical duties of an architect in the processes of registra-

	tion, construction contracts, architectural-building observation etc.,. PR-14. Understanding of building industry processes, financial dynamics, investment into estate property and equipment control, - understanding of business principles and their application in the development dwelling environment, project management, professional consulting. PR-15 understanding of the potential role of an architect in traditional and new fields of activity and in international context PR-16. Skills to act and transfer ideas with the help of cooperation, negotiations, ability to quantative thinking, calculations, text writing, drawing, modelling and evaluative approaches - abilities to use hand and computer graphics, ability to model for investigation, development and presentation and solving design offers. PR-17. Mastering of evaluation systems using mental, electronic means of life activity environment. PR-18. *Understanding of interdisciplinary* of architectural theory and practice, certain dependence from other professions, familiarity of which is necessary for acting, planning , construction, control of urban and partially natural environment.

VI. Requirements to the system of internal higher education quality system

Principles and quality education support procedures	Defined by the regulations: 1. Standard of PSACEA NP-01-15 «Regulations on the organization of educational process». 2. Standard of PSACEA NP-03-17 «Regulations on the organization of practical training for students».
Monitoring and preview of programmes	After completing the whole training cycle to the beginning of a new academic year
Assessment of applicants	Assessment system for applicants is made according to 100 point system with compulsory transformation of marks according to national scale and ECTS scale
Personnel development	
Resources for organization of educational process	Present staff, material-technical, educational and informational support in specialty face the requirements of the present Licenced agreements
Informational systems for efficient educational process control	To control the quality of educational quality there is an informational system “SYGMA”
Availability of information about educational programmes, degrees, qualifications	Information is available on www.pgasa.dp.ua
System of academic plagiary protection	

VII. List of the components of educational and professional programme and their consecution

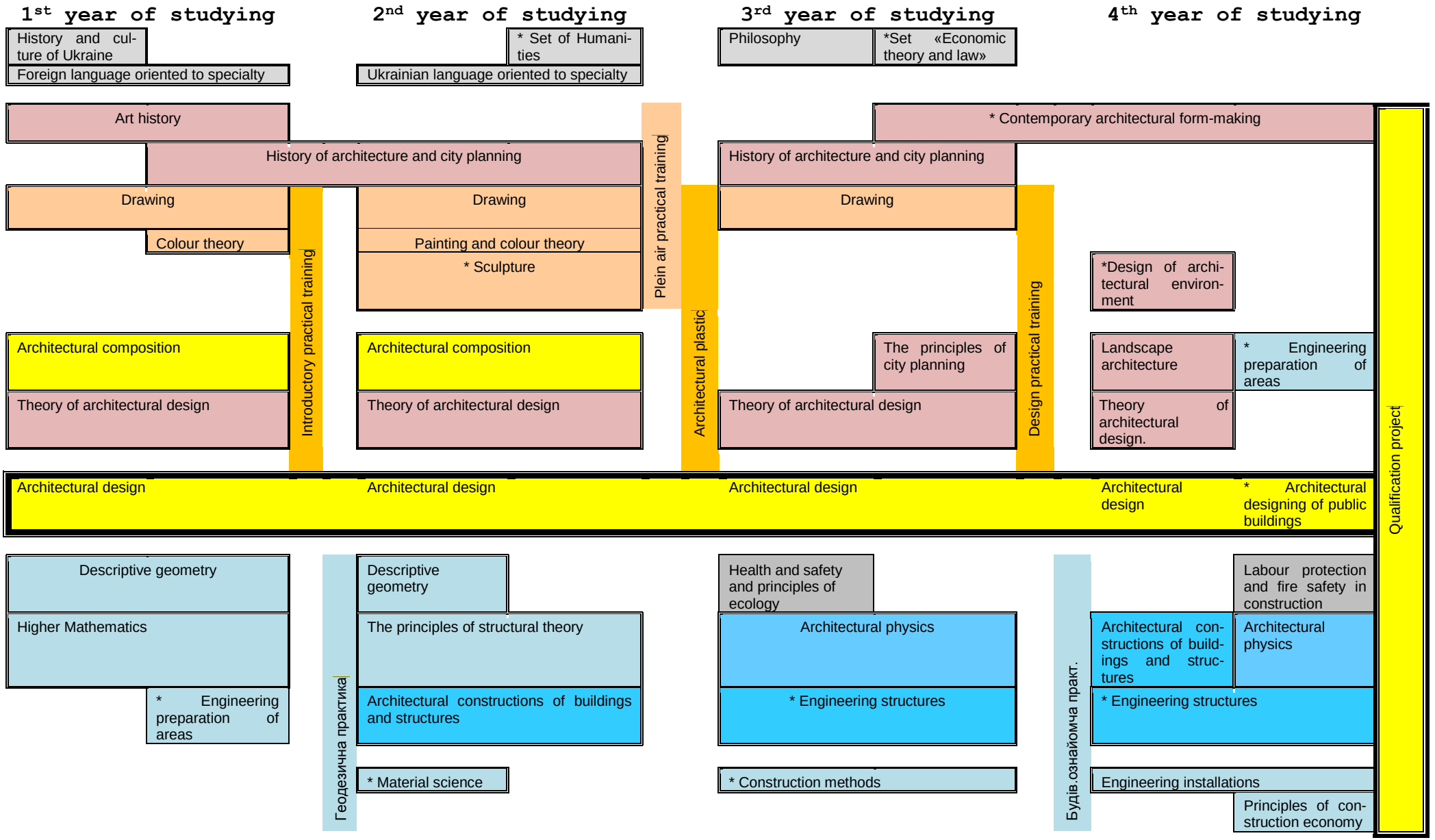
8.1. List of components

№ i/o	Components of educational and professional programme(disciplines, practical trainings, assessment)	ECTS credits	Summative assessment	Competence code
Compulsory subjects				
General training cycle				
1	History and culture of Ukraine	3.0	Examination	GC-2 GC -3
2	Foreign language oriented to specialty	5.0	Examination	GC -6 PC-7
3	Health and safety and principles of ecology	4.0	Credit	GC -11 PC -14 PC -16
4	Philosophy	3.0	Examination	GC -1 GC -8 GC -11 PC -9
5	Higher Mathematics	5.0	Examination	GC -4 PC-3
6	Descriptive geometry	7.0	Examination	GC -3 GC -5 PC -6 PC -16
7	Ukrainian language oriented to specialty	4.0	Examination	GC -6 PC -10
Professional training cycle				
8	Art history	5.0	Examination	GC -10 PC -3
9	History of architecture and city planning	9.0	Examination	GC -6 GC -9 PC -1 PC -2 PC -3 PC -8 PC -11
10	Theory of architectural design	9.0	Examination	GC -2 GC -3 GC -11 PC -1 PC -3 PC -9 PC -10 PC -15
11	Architectural design	51.5	Term project (7 projects)	GC -4 GC -5 GC -9 PC -1 PC -5 PC -6 PC -7 PC -16
12	Architectural composition	9.5	Examination	GC -7 GC -9 PC -2 PC -7 PC -8
			Term paper	GC -5 PC -5
13	Drawing	10.0	Examination	GC -9 PC -3 PC -8
14	Painting and colour theory	5.0	Credit	GC -9 PC -3 PC -7 PC -12
15	The principles of structural theory	4.5	Credit	GC -7 PC -3 PC -14
16	Architectural constructions of buildings and structures	8.0	Examination	PC -3 PC -4 PC -14 PC -16
			Term paper	GC -5 PC -14
17	Architectural physics	7.5	Examination	PC -14
			Term paper	GC -5 PC -16
18	Labour protection and fire safety in construction	3.0	Credit	GC -11 ПК-14
19	The principles of city planning	3.0	Examination	GC -8 PC -1 PC -9 ПК-11 PC -

				16
20	Landscape architecture	3.0	Examination	GC -10 PC -2 PC -8
Total volume of compulsory components		**159**		
Elective components				
General training cycle				
1	Set № 1: - Psychology and Pedagogy - Sociology - Political science - Ethics and Aesthetics - Religious studies	3.0	Credit	GC -1 GC -2 GC -8 GC -11
2	Set № 2: - Economic theory - National economy - Principles of market relations) - Law	3.0	Credit	GC -1 GC -4 GC -6 PC -16
Professional training cycle				
SET 1				
1.3	Sculpture	3.0	Credit	GC -9 PC -12
1.4	Contemporary architectural form-making	7.0		GC -4 GC -7 GC -8 PC -2 PC -8 PC -11
1.5	Architectural environment design	3.0	Credit	GC -9 ПК-8
			Term paper	PC -1
1.6	Architectural designing of public buildings	8.5	Term project	GC -5 GC -6 PC -5 PC -7 PC -9 PC -12 PC -15
1.7	Material science	3.0	Examination	PC -13 PC -15
1.8	Engineering structures	9.0	Examination	PC -4 PC -13
1.9	Construction methods	3.5	Credit	PC -4 PC -13
			Term paper	GC -5
1.10	Engineering preparation of areas	4.0	Credit	PC -13 PC -14
1.11	Engineering installations	4.0	Credit	PC -13 PC -14
1.12	Principles of construction economy	3.0	Credit	GC -7 PC -16
SET 2				
2.3	Architectural plastic, work in material	3.0	Credit	GC -9 PC -12
2.4	Development of the architecture of the 20th century and modern era	7.0		GC -4 PC -2 PC -8 PC -9 PC -11
2.5	Object-spatial formation of architectural environment	3.0	Credit	GC -9 PC -15
			Term paper	PC -1 PC -16
2.6	Architectural designing of industrial buildings	8.5	Term project	GC -5 PC -5 PC -7 PC -15
2.7	Modern building materials and technologies	3.0	Examination	PC -3 PC -13
2.8	Innovative construction technologies	9.0	Examination	GC -10 PC -4 PC -13
2.9	Management of design and construction	3.5	Credit	GC -7 PC -7
			Term paper	GC -5
2.10	Urban engineering infrastructure	4.0	Credit	PC -14

2.11	Energy efficient and ecological technol-ogies in construction	4.0	Credit	PC -4 ПК-6 PC -16
2.12	Economic substantiation of architectural concepts	3.0	Credit	GC -8 PC -6 PC -16
Total volume of elective components		**54**		
Practical training				
1	Introductory practical training	3.0	Credit	GC -5 GC -7 PC -1 PC -11 PC -12
2	Surveying practical training	3.0	Credit	GC -5 PC -12
3	Plein air practical training	3.0	Credit	GC -9 PC -3 PC -8
4	Architectural plastic practical training	3.0	Credit	GC -6 GC -9 PC -12
5	Construction-introductory practical training	3.0	Credit	PC -12 PC -15
6	Design practical training	3.0	Credit	GC -3 GC -10 PC -5 PC -12 PC -15
Assessment				
1	Qualification project	9.0		
TOTAL VOLUME OF EDUCATIONAL AND PROFESSIONAL PROGRAMME		**240**		

8.2. Structural-logical scheme of programme



REFERENCES

1. ESG – http://ihed.org.ua/images/pdf/standards-and- guidelines_for_qa_in_the_ehea_2015.pdf.
2. ISCED (МСКО) 2011 – http://www.uis.unesco.org/education/documents/isced-2011-en.pdf.
3. ISCED-F (МСКО-Г) 2013 – http://www.uis.unesco.org/Education/Documents/isced-fields-of-education-training-2013.pdf.
4. Закон «Про вищу освіту» - http://zakon4.rada.gov.ua/laws/show/1556-18.
5. Закон «Про освіту» - http://zakon5.rada.gov.ua/laws/show/2145-19.
6. Наказ Міністерства освіти і науки України від 21 грудня 2017 № 1648 «Про внесення змін до наказу Міністерства освіти і науки України від 01.06.2017 № 600.
7. Національний класифікатор України: «Класифікатор професій» ДК 003:2010.– К. : Видавництво «Соцінформ», 2010.
8. Національна рамка кваліфікацій – http://zakon4.rada.gov.ua/laws/show/1341-2011-п.
9. Перелік галузей знань і спеціальностей – http://zakon4.rada.gov.ua/laws/show/266-2015-п.
10. Лист МОН України від 28.04.2017 № 1/9-239 .
11. Towards a Competences Based Architectural Education in Europe / Constantin Spiridonidis, 2007 (електронний ресурс). http://www.unideusto.org/tuningeu/subject-areas.html.
12. UIA and architectural education: reflections and recommendations / Revised Edition 2011. (електронний ресурс). http://www.uia-architectes.org.
13. Закон України «Про архітектурну діяльність», № 687-14 1999.