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

« CIVIL ENGINEERING»

SHE PSACEA 192b – 2018

KNOWLEDGE AREA	**191** Architecture and Engineering Development
SPECIALTY	**192** Engineering Development and Civil Engineering
ACADEMIC DEGREE	**first (Bachelor's) degree**

Dnipro – 2018

PREFACE

ELABORATED by
working party including:

Savitskiy Myk	–	Prof., PhD., Department of Reinforced Concrete and Masonry Structures, Pro-Rector for Research
Sokolov Igor Anatoliiovich	–	Prof., PhD., Department of Construction Engineering, Head of Civil Engineering Faculty
Sedin Volodimir Leonidovich	–	Prof., PhD, Head of the Department of Foundations and Bases
Kravchunovskaya Tatiana Serhiivna	–	Prof., PhD, Head of Department of Planning and Production Organization
Volchok Denis Leonidovich		- Candidate of Technical Sciences, Assistant Professor, Deputy Dean of Civil Engineering Faculty
Nechepurenko Daria Serhiiv	–	Candidate of Technical Sciences, Associate Professor, Deputy Dean of Civil Engineering Faculty

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I. INTRODUCTION

Attestation is the establishment of conformity of the acquired by higher education level applicants and the amount of knowledge, skills and other competences to the requirements of the educational program.
The field of knowledge is the main subject area of education and science that includes a group of related specialties for which vocational training is carried out.
Descriptors of the National Qualifications Framework
- **Autonomy and Responsibility** - the ability to perform tasks independently, solve problems and be responsible for the results of its' activities;
- **Knowledge** - meaningful and assimilated scientific information, which is the basis of it's conscious, purposeful activity.
- **Knowledge** is divided into empirical (factual) and theoretical (conceptual, methodological);
- Communication - the interconnection of subjects aimed to the information transfer, coordination of actions, joint activity;
- Ability - the ability to apply knowledge to accomplish tasks and solve problems.
-Skills are divided into cognitive (intellectual-creative) and practical (based on skill using methods, materials, instructions and tools.
European Credit Transfer and Accumulation System (ECTS) is a credit transfer and accumulation system used in the European Higher Education Area to provide, recognize, validate qualifications and educational components and promote the academic mobility of higher education applicants. The system is based on the determination of the academic load of the higher education applicant required to achieve the specific learning outcomes and is accounted for in ECTS credits.
Qualification - recognized by the authorized entity and certified by the relevant document standardized set of competencies acquired by the person (learning outcomes). Qualifications by volume are classified in full and partial, in content - educational and professional.
Qualification is considered to be complete if a person has acquired a complete list of competences at the appropriate level of the National Qualifications Framework, which is defined by the relevant standard.
Qualification is considered partial in case a person acquires part of the competences of the appropriate level of the National Qualifications Framework, which is defined by the relevant standard.
Educational Qualification is a recognized institution of higher education and certified by the relevant document on education the set of higher education standards established and the results of training (competences) obtained by the person.
Professional Qualification is recognized by the qualification center, the subject of educational activity (in particular, the institution of higher education), another authorized entity, and the standardized set of competencies (learning outcomes) attested by the person, allowing to perform a certain type of work or carry out a professional activity certified by the relevant document.
Qualification Work is a type of final certification that may be required at the final stage of obtaining a certain level of higher education in order to establish the conformity of the acquired learning outcomes (competencies) with the requirements of higher education standards. Forms of qualification work include (but are not limited to): diploma paper, dissertation research, public demonstration (defense), a set of scientific articles, a combination of different forms of the above, etc

Qualification level is a structural unit of the National Qualifications Framework that is defined by a set of competences that are typical of the qualifications at that level.
Competence is a dynamic combination of knowledge, skills, ways of thinking, attitudes, values and other personal qualities that determines a person's ability to successfully socialize, pursue a professional and / or further educational activity.

Integral Competence - a generalized description of a qualification level that expresses the basic competence characteristics of the level in terms of training and / or professional activity.
- General competences - universal competences that are independent of the subject area, but are still important for the successful further professional and social activities of the applicant in various fields and for his personal development.
-**Professonal (specialty, subject) Competences** - competencies that depend on the subject area, and are important for successful professional activity in a particular specialty.

The European Credit Transfer and Accumulation Credit (hereinafter referred to as ECTS Credit) is the unit of measurement of the academic load of a higher education applicant required to achieve the defined (expected) learning outcomes. The volume of one ECTS loan is 30 hours. The load of one academic year per day of study is usually 60 ECTS credits.
The National Qualifications Framework is a systematic and structured description of qualifications levels.
Educational (vocational, educational, scientific or educational-creative) program - a system of educational components at the appropriate level of higher education within the specialty, which defines the requirements for the level of education of students who can start training under this program, the list of disciplines and logical sequence their study, the number of ECTS credits required to complete this program, and the expected learning outcomes (competences) that the applicant should have for an appropriate education degree.
Learning Outcomes (programmatic) - Knowledge, skills, attitudes, values and other personal qualities acquired through learning and development that can be identified, planned, evaluated, and measured and that a person is able to demonstrate after completing an educational program or individual educational components.

Specialization - a component of the specialty, which is determined by the institution of higher education and provides a specialized educational program for the preparation of applicants for higher and postgraduate education.
Quality of higher education - compliance of the learning outcomes with the requirements established by law, the relevant higher education standard and / or the agreement on the provision of educational services.

I. INTRODUCTION

Educational and professional program is used during:
• licensing of specialty and accreditation of educational and professional program;
• preparation of curricula and working curricula;
• formation of work programs of educational disciplines, practices, individual tasks;
• formation of individual curricula of students;
• development of diagnostic tools for higher education quality;
• certification of higher education applicants;
• determining the content of training in the retraining and advanced training system;
• professional orientation of applicants for the profession;
• external quality control of training of specialists;

Users of educational and professional program:
• Higher education students attending the academy;
• scientific and pedagogical staff providing training in the specialty 192 "Engineering Development and Civil Engineering"
• Examination Committee on specialty 192 “ Engineering Development and Civil Engineering”;
• the Academy's Admission Committee.
The educational and professional program extends to the departments of the Academy, that take part in the training of specialists of the bachelor's degree by the specialty 192 " Engineering Development and Civil Engineering".

Designations used in the professional education program
NQF - National Qualifications Framework;
GC - general competencies;
PC - professional competencies;
GLO - general learning outcomes;
PCS - professional competencies by specialty;
PLO - professional learning outcomes;
DGTC- disciplines of the general training cycle;
EC - elective courses;
TP - tem project;
TW - term work.

II. General Information

Official name of educational and professional programme	Civil Engineering
Higher Educational Level	First
Academic Degree	Bachelor
Knowledge Area	19 «Architecture and Engineering Development »
Specialty	192 «Engineering Development and Civil Engineer-
Specialization	Civil Engineering
Academic Accreditation	Primary in 2020
Educational qualification	Bachelor of Civil Engineering

Diploma Qualification	2142.2 civil engineer
Diploma type	Single
Course duration	3 years 10months
Total credit ЄКТС	240 credits ЄКТС
Term/ Level	QF for **EHEA** – 1st level, **EQF for LLL** – 6 level; **НРК** Ukraine– 7 level
Prerequisites	Complete general secondary education

THE PURPOSE OF THE PROGRAM

-is to provide training for professionals in the field of civil engineering by acquiring competencies sufficient to carry out research, the results of which are of theoretical and practical importance, as well as supporting them in the preparation and protection of qualifications.

III. CHARACTERISTICS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM

Description of the subject area	**The subject of study** is organizational, managerial, economic, control-analytical, consulting, expert activity of economic entities and public sector institutions, research and pedagogical activity in the field of civil engineering. **Aims of the training:** integration of general technical and special technical training for professional activity in the field of construction, production-technical, design, operational services of construction enterprises, in design, research institutions, educational establishments. **The theoretical content of the subject area** is an in-depth study of the achievements of world science, practice, culture and professional ethics, the latest technologies in the field of civil engineering; modern research methodology and pedagogical activity for the study of construction processes, problems in the process of design and implementation of construction projects. **Methods, techniques and technologies:** dialectical method of knowledge of social phenomena; logical, comparative, systemic, structural, functional and integrated approaches; general scientific and special methods of analysis, synthesis, mathematical modeling and prediction of construction processes, methods and technologies of construction project management. **Tools and equipment:** Higher education applicant must possess information, communication and educational technologies in the field of civil engineering and engineering development; progressive information systems and technologies for the organization of construction processes, a set of methods for managing the activities of construction organizations, as well as methodological tools for the calculation and modeling of building structures.

Program Focus	**General:** Emphasis on the ability to perform theoretical and design-experimental works, solving the problems of the civil engineering - the tasks of strength, durability, durability, reliability and safety of structures, buildings and structures; the use of information technology, advanced computer mathematics systems, high-tech computer technologies, computer-aided design software, computer-aided design, software engineering and computer engineering; project management; organization of work of design and production units engaged in the development and design of buildings, structures and
Orientation of the program	Scientific and theoretical principles for the improvement of practical activity in the field of civil engineering.
Employment of graduates	**Activity in the field of engineering development and civil engineering.** Administrative and management activities in institutions of state, territorial-administrative systems and construction sector. **Positions by occupational classifier ДК003:2010** **1. Managers:** **1223 Heads of production departments in civil engineering** **1223.1 Chief Technician** - Heads of production departments in civil engineering **21015 Chief Civil Engineer** **20735 Chief Engineer** **21480 Director of Capital Construction** **1223.2 Heads (other managers) and Chiefs of production departments in civil engineering** **24441 Contractor** **23419 Construction and Mechanical Foreman** **23898 Chief of Department** **24116 Head of Housing and Utility Services (HUS)** **24097 Section Foremaster** **1238 Job Captain /Project Manager and Program Head Manager** **1313 Small Business Managers Without Management Apparatus in Construction** **144 Managers(executives) in construction, transport, post and communications**

	Managers (executives) of architecture and construction, technical control, analysis and advertising **2 Skilled Specialists** **2142 Specialists in Civil Engineering** **2142.1 Researchers (CE)** **Junior Researcher (CE)** **Research Associate (CE)** **2142.2 Engineers** **22395 Design and estimate engineer** **22177 Civil Engineer** **Structural Engineer** **Technical Supervision Engineer** **Building Expert** **Structural Engineer for the Restoration of Architectural Monuments and Town Planning** **Job Placement.** Organizations involved in the design, construction, operation of buildings and structures; enterprises engaged in development and production of building materials, products and structures; public authorities and local self-government bodies; enterprises of housing and communal services; research institutes and laboratories; specialized chairs of educational institutions.
Program Details	Advanced preparation for the block of elective training courses

IV. LIST OF GRADUATE'S COMPETENCES

Integral Competences	**IC1**.The ability to solve complex specialized problems and practical problems in engineering development and civil engineering and in the learning process, which involves the application of certain theories and methods of relevant science and is characterized by the complexity and uncertainty of the conditions.
General Competences	**GC1.**Ability to realize their rights and responsibilities as a member of society, to be aware of the values of civil (free democratic) society and the need for its sustainable development, the rule of law, rights and freedoms of man and citizen in Ukraine **GC2.** Ability to preserve and multiply moral, cultural, scientific values and achievements of the society based on the understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and engineering, and to use different types and forms of motor activity for active rest and it's place in a healthy lifestyle. **GC3.** Ability to apply knowledge in practical situations.

	GC4. Knowledge and understanding of the subject area and understanding of professional activity. **GC5.** Ability to communicate in official language both verbally and in writing, the ability to communicate in a foreign language. **GC6.**Use of information and communication technologies. **GC7**. Ability to conduct research at an appropriate level. **GC8.** Ability to learn and master modern knowledge. **GC9.** Ability to search, process and analyze information from different sources. **GC10.** Ability to be critical and self-critical. **GC11.** Ability to adapt to and act in a new situation. **GC12.** Ability to generate new ideas (creativity). **GC13.** Ability to identify, ask and solve problems. **GC14.** Ability to work autonomously. **GC15.** Ability to develop and manage projects.
Professonal (specialty, subject) Competences	**PC1.** Basic knowledge of scientific concepts, theories and methods necessary to understand the principles of design, construction and operation of construction structures. **PC2.** Ability to use knowledge and ability to calculate, research, select, implement and design building structures and their components. **PC3.** Ability to identify, classify and describe the work of technical systems and their components by using analytical and simulation methods. **PC4.**Ability to argue the choice of methods for solving special problems, evaluate critically the results obtained and to defend the decisions made. **PC5.** Students acquire the techniques and skills to solve specific problems in different fields that would allow the future engineers to navigate the flow of scientific and technical information and to apply new physical methods in production and construction field. **PC6.** Competence in the development and use of logical techniques for professional knowledge. **PC7.** Competence in the ability to solve complex specialized problems and problems during a practical activity or in a learning process that involves the application of theories and methods of monitoring. **PC8**. Perseverance to solve problems. **PC9.** Knowledge and understanding: functions of the state, forms of implementation of these functions; legal bases of civil protection. **PC10.**Ability to apply professional-profiled knowledge and practical skills to accomplish typical specialty tasks. **PC11.** Ability to create products in a specialty, taking into account all aspects of the task, including creation, promotion, implementation and improvement. **PC12.** Ability to substantiate independently and choose technological solutions in engineering development, using modern

	methods of technology and work organization. **PC13.** Ability to analyze the current state and directions of effective construction development. **PC14.** Ability to organize the processes of construction and reconstruction of residential, civil and industrial projects. **PC15.** Ability to use modern methods of calculating for buildings and structures **PC16.**Ability to compile mathematical models of application problems, computer schemes and solve them using analytical and numerical methods. **PC17.** Ability to understand terms and definitions in the field of engineering development. **PC18.** Use of computer- aided design systems in civil engineering and engineering development.

V. LEARNING OUTCOMES (PROGRAMMATIC)

Learning Outcomes (Programmatic)	**GC1.** Ability to demonstrate knowledge and understanding of the scientific and mathematical principles that underlie the design and construction technology of building structures. **GC2.** Basic methods of theory, normative, technical and reference literature in the field of construction. **GC3.** Methods of processing research results. GC4. Current world and domestic trends in the field of construction. **GC5.** Apply knowledge in the field of construction to independently solve various tasks, as well as tasks of special and general engineering profiles. **GC6.** History and content of the most important moral and aesthetic teachings. **GC7.** Basic ethical concepts, the importance of ethics for the formation of personality. **GC8.** The importance of aesthetics for the formation of personality and it's creativity. **GC9.** Logical rules of argumentation, evidence and refutation. **GC10.** Understanding the impact of technical advances in public life. **GC11.** Acquisition of adequate knowledge and understanding related to the specialty civil engineering. **GC12.**The theory and methodology of optimal projection at the level of construction of mathematical model of engineering problem. **GC13.** The theory and methodology of formation of design schemes of buildings and structures. **GC14.** Normative, technical and reference literature in the field of engineering development. **GC15**. Principles of organization of repair and restoration works. **GC16**. Tasks and prospects of construction business in the field of reconstruction and reinforcement of structural elements of buildings and structures.

	GC17. Causes of physical and moral deterioration of structures of buildings. **GC18.** Methods of calculation of buildings and structures. 1.To apply knowledge and skills to identify, formulate and solve technical problems of a specialty, using known methods. 2. To think systematically and apply creative abilities to the formation of fundamentally new ideas. 3. To calculate, design , research typical projects for the chosen specialty. 4. To master the scientific approach to their professional knowledge. 5. Be able to independently search, analyze and select the necessary information. 6. To know the language, the means of its expression for interaction with the environment and individuals. 7. To develop teamwork skills. 8. Be able to present yourself, file documents, have a discussion. 9. To generate new ideas (creativity) and effectively structure them in a professional environment. 10. To evaluate critically the results obtained and substantiate the decisions made. 11. To analyze the results of research in the context of existing theories, to draw appropriate conclusions. 12. To make a mathematical model of the problem, choose the objective function and constraints on the model parameters. 13. To determine the degree of energy performance of the building. 14. To perform calculations of building needs for heating, cooling and hot water supply. 15. To perform calculations taking into account the actual work of structures, material properties, design scheme. **C1.**The ability to communicate, including oral and written communication in Ukrainian and foreign languages (English, German, French). **C2.** The ability to use a variety of methods, including modern information technology, for effective communication at the professional and social levels. **AiB1**.Ability to adapt to new situations and make appropriate decisions. **AiB 2.** Ability to be aware of the need for lifelong learning in order to deepen acquired and acquire new professional knowledge. **AiB3.** Ability to take responsibly on the work being performed, make independently decisions, achieve the set goal, in accordance with the requirements of professional ethics. **AiB4.** Ability to demonstrate an understanding of basic environmental principles, occupational safety and health.

VI. FORMS OF ATTESTATION OF APPLICANTS FOR HIGHER EDUCATION

Forms of Attestation of Applicants for Higher Education	Certification in the specialty is carried out in the form of public defense of qualification work in the specialty.
Requirements for Qualification Work / Project	Qualification work is a student's scientific and practical work, which is performed at the final stage of obtaining a Bachelor's degree in civil engineering and engineering development in order to establish the conformity of higher education results (competencies) with the requirements of higher education standards. It is a qualification document, on the basis of which the EB determines the level of theoretical training of the graduate, his willingness to work independently in a specialty and makes the decision on the assignment of the relevant qualification and the award of a diploma. Scientific information in the work should be presented in the most complete form, necessarily disclosing the course and results of the study with a detailed description of the research methodology. The completeness of scientific information should be reflected in detailed factual material with justifications, hypotheses and theoretical generalizations. The work materials should contain specific, well-defined recommendations aimed at improving the object of study. The presentation of the material is subject to one major idea, defined clearly by the author.
Requirements for Public Protection	The qualification work is performed in the form of a student's report in the presence of members of the Examination Board. The report should be accompanied by a demonstration of the graphic part in the form of a presentation with handouts or in the form of graphic drawings, posters. Bachelor's Degree protection is held at open examination board meetings. The order of the examination board and the schedule of protection is approved by the order of the academy and communicated in advance to the students. The consent to the admission to protection must be signed by the Head, the Controller and the Joint Consultants (if any), and then signed by the Head of the department. On the day of defense, the student must hand over to the responsible secretary of the examination board the following materials: explanatory note; submission and review; record book; electronic CD or graphic drawings. The materials must be submitted half an hour before the examination board begins. The duration of protection is usually set to 30 minutes. The duration of the student's report is 8-10 minutes. In the

	course of the report, the student should use a developed presentation containing illustrative materials to demonstrate the main points of his work. The report concludes with the formulation of conclusions where the student should define clearly the main results of the work, make comparisons with known analogues, and tell about the prospects of further developments in this direction and practical application of the results. After the report, a review of the qualification work will be read. Then the student responds to the reviewer's comments. Then, the student answers the questions of the members of the examination committee who are asked to determine the level of his professional training and erudition as a whole. Questions are asked orally and entered into the minutes of the meeting. The student must give a reasoned detailed answer to all questions. After the public defense of the qualification work, the results of the defense are discussed at a closed meeting of the Examination Board and decisions are made on the evaluation of the work. Evaluating a student's report, first of all, draws attention to how freely and confidently the speaker has the material of his work, modern terminology, whether he can report without the help of the text of the report. It is important that the speaker can explain confidently and easily the materials of tables, graphs, figures, diagrams, drawings.

VII. REQUIREMENTS FOR HAVING AN INTERNAL QUALITY ASSURANCE SYSTEM FOR HIGHER EDUCATION.

Principles and Procedures for Quality of Education	**Principles:** - compliance with European and national higher education quality standards; - autonomy of a higher education institution responsible for ensuring the quality of educational activity and the quality of higher education; - a systematic approach that involves quality management at all levels of the educational process; - monitoring the quality of education; - involving students, employers and other stakeholders in the quality assurance process; - openness of information at all stages of quality assurance. **Procedures:** - improving the planning of educational activities; - approval, monitoring and periodic review of educational programs; - improving the quality of preparation of the contingent of higher education applicants; - strengthening of the Academy's staffing potential; - ensuring that the necessary resources are available to organize the educational process and support higher education applicants; - development of information systems in order to increase the efficiency of management of the educational process; - ensuring publicity of information on the activities of the Academy; - creation of an effective system for the prevention and detection of academic plagiarism in the scientific works of teachers and applicants for higher education.
Monitoring and Periodic Review of Programs	Regular monitoring, review and updating of educational programs are intended to guarantee an adequate level of educational services and to create a supportive and effective learning environment for higher education students. This involves evaluating: the content of the program, ensuring that the program meets current requirements; the changing needs of society; educational load of higher education applicants, their achievements and results of completion of the educational program; effectiveness of student assessment procedures; expectations, needs and satisfaction of higher education students with the content and process of education; the learning environment of purpose and content programs; quality of service for higher education applicants. Programs are regularly reviewed and updated upon completion of the full preparation cycle for the start of the new academic year.
Evaluation of Applicants for Higher Education	Evaluation of student learning outcomes is carried out during the control activities. Control measures include current and semester control. The task of the current control is to check the understanding and assimilation of certain material, the developed skills of calculation work, the ability to process independently texts, publicly or in writing to present certain material, etc. Forms of current control are: performance of individual tasks; fulfillment of test tasks; performing control work performed in the classroom or during independent work; writing and defense of abstracts; protection of laboratory works.

	Final control is conducted to evaluate the learning outcomes at the appropriate educational level or at some of its final stages. The final control includes a term control (exam, differentiated credit or credit from a specific academic discipline) and student certification. Termcontrol is conducted in the form of a semester exam or credit from a specific discipline in the amount of study material defined by the curriculum, and within the terms set by the curriculum. To carry out current control of students' success, the Rectorate conducts Rectorial Control Works every semester. In order to control residual knowledge, the CPC is held every semester. The disciplines for which the RCW and RCC are scheduled to be held and the timing of the control activities are determined by the working curriculum. Assessment of the results of the students of the Academy is carried out by methods that correspond to the specifics of a particular discipline. Student achievement is monitored using a 100-point grading system, with mandatory grading and national ECTS.
Improvement of Qualification of Scientific-Pedagogical, Pedagogical and Scientific Workers	The system of advanced training of scientific-pedagogical, pedagogical and scientific workers is developed in accordance with the current regulatory framework and is based on the following principles: the obligation and periodicity of traineeship and advanced training; transparency of procedures for organizing internships and training; monitoring the relevance of the content of professional development programs to the tasks of professional activity; obligatory implementation of the results of advanced training in scientific and pedagogical activity; publicizing the results of internships and advanced training.
Availability of Necessary Resources for Educational Process Organizing	The available personnel, material, technical, educational, methodological and informational support in the specialty meets the requirements of the current Licensing conditions for conducting educational activities of educational institutions and ensures the implementation of state requirements for a specialist with higher education.
Availability of Information Systems for Efficient Educational Process Management	For the purpose of educational process management, an effective information management policy and an appropriate integrated information system for educational process management have been developed. This system provides the automation of the basic functions of the educational process management, in particular: ensuring the introduction of the company, planning and organization of the educational process; access to training resources; accounting and analysis of the success of higher education applicants; administering basic and supportive educational processes; monitoring of quality standards. To manage the quality of educational activity in the Academy, an information system of ACS-ZVO "SIGMA" was created.
Publicity of Information on Educational Programs, Degrees of Higher Education	The publicity of information on educational programs, degrees of higher education and qualification is available on the site of the State Higher Educational Institution “Pridneprovsk State Academy of Civil Engineering and Architecture” pgasa.dp.ua in open access.

and Qualification	
Adherence to Academic Integrity by Academy Staff and Higher Education Applicants	Academic integrity is respected by the employees and applicants of higher education in accordance with the Code of Integrity of the State Educational Establishment. The system of ensuring academic integrity by participants in the educational process is based on the following principles: • observance of generally accepted principles of morality; • demonstration of respect for the Constitution and laws of Ukraine and compliance with their norms; • respect for all participants in the educational process, regardless of their outlook, social status, religion or nationality; compliance with copyright law; • links to sources of information in case of borrowing ideas, statements, • information; • independent performance of individual tasks.
Academic plagiarism prevention and detection system	Plagiarism is checked. **http://www.plagtracker.com/** **http://www.scanmyessay.com/** **http://plagiarismdetector.net/** **http://www.duplichecker.com/** **http://www.hfhtrrater.com/** **http://plagiarisma.net/**

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	Comptence code
	1. Compulsory Subjects			
1.	**History and culture of Ukraine**	**3**	Examination	**IC,GC, PC**
2.	**Ukrainian language oriented to specialty**	**4**	Examination Credit	**IC, GC, PC**
3.	**Philosophy**	**3**	Examination	**IC,GC PC**
4.	**PE**			**IC, GC, PC**
5	**Higher Mathematics**	**15**	Examination Examination	**IC, GC, PC**
6.	**Phisics**	**6,5**	Examination Examination	**IC, GC, PC**
7.	**Chemistry**	**3,5**	Credit	**IC, GC, PC**

8.	**Theoretical Mechanics**	**9,5**	Examination Examination	**IC,GC PC**
9.	**Computer Studies**	**4,5**	Credit Credit	**IC, GC, PC**
1.2. Elective training cycle				
10.	**Psychology and Pedagogy** **- Sociology** **- Political Science** **- Ethics and Aesthetics** **- Religious Studies**	**3**	Credit	**IC, GC, PC**
11.	**Foreign Language (English, French, German)**	**7**	Examination Credit	**IC, GC,ФК**
12.	**Economic Theory** **- National Economy** **- Principles of Market Relations** **- Law**	**3**	Credit	**IHT, GC, PC**
2. Professional Training Cycle				
2.1. General training cycle				
1.	**Introduction to Civil Engineering**	**3**	Credit	**IC, GC, PC**
2.	**Basics of Hydraulics, Water Supply and Drainage**	**3**	Credit	**IC , GC, PC**
3.	**Strength of Materials**	**9,5**	Examination Credit	**IC, GC, PC**
4.	**Theory of Structures**	**8,5**	Examination Credit	**IC, GC, PC**
5.	**Materials and Components Science**	**3**	Examination	**IC, GC, PC**
6.	**Engineering Preparation of Areas**	**3**	Examination	**IC, GC, PC**
7.	**Engineering Surveying**	**3,5**	Examination	**, IC GC, PC**
8.	**Engineering Geology**	**3**	Examination	**IC, GC, PC**
9.	**Basics of Labour Protection and Fire Safety in Construction**	**3**	Examination	**IC, GC, PC**
10.	**Architectural Constructions of Buildings and Structures**	**6**	Examination Credit	**IC, GC, PC**
11.	**Reinforced Concrete and Masonry Structures**	**9,5**	Examination Credit	**IC, GC, PC**
12.	**Metal Structures**	**7**	Credit Credit	**IC, GC, PC**
13.	**Soil Engineering Basics**	**5**	Examination	**IC, GC, PC**
14.	**Technological Stages of Construction and Mechanization of Production**	**4**	Examination	**IC, GC, PC**
15.	**Construction Technology**	**11**	Examination Examination Credit	**IC, GC, PC**
16.	**Production Organization**	**8,5**	Examination	**IC ,GC, PC**

			Credit	
17.	**Electrical Engineering in Engineering Development**	**3**	Credit	**IC, GC, PC**
18.	**Heat and Gas Supply, Ventilation and Air Conditioning of Structures**	**3**	Credit	**IC, GC, PC**
19.	**Special Course in Theory of Structures**	**5**	Examination	**IC, GC, PC**
20.	**Fundamentals of the Theory of Elasticity and Plasticity**	**3**	Examination	**IC, GC, PC**
21.	**Foundations and Bases**	**4,5**	Examination	**IC, GC, PC**
22.	**Constructing and Assembling of Buildings and Structures**	**3,5**	Examination	**IC, GC, PC**
2.2. Elective Training Cycle				
1.	**Fundamentals of Computer Aided Design in Civil Engineering**	**3**	Examination	**IC, GC PC**
2.	**Design, Installation and Reconstruction of Buildings and Structures in Special Conditions**	**11,5**	Examination Credit	**IC, GC PC**
3.	**Engineering and Computer Graphics (AutoCAD, Solid Work, 3Ds max)**	**7**	Examination Credit	**IC, GC PC**
Set 1				
1.	**Diagnostics and Reinforcement of Reinforced Concrete and Masonry Structures**	**3**	Examination	**IC, GC, PC**
2.	**Engineering Research in Civil Engineering**	**3**	Credit	**IC, GC, PC**
3.	**Metals and Welding**	**3**	Credit	**IC, GC, PC**
4.	**Modern Designs of buildings and structures (wooden)**	**3,5**	Examination	**IC, GC,ФК**
5.	**Architectural Constructions of Buildings and Structures (industrial purpose)**	**4,5**	Examination	**IC, GC, PC**
6.	**Construction Economics**	**3**	Credit	**IC, GC, PC**
Set 2				
1.	**Inspection and Structural Survey of Building Structures**	**3**	Examination	**IC, GC, PC**
2.	**Improvement of Soil Foundations of Buildings and Structures**	**3**	Credit	**IC, GC, PC**
3.	**Materials and Components Science in Civil Cngineering**	**3**	Credit	**IC, GC, PC**
4.	**Latest designs of buildings and structures (polymeric)**	**3,5**	Examination	**IC, GC, PC**
5.	**Architectural constructions of**	**4,5**	Examination	**IC, GC, PC**

	buildings and structures (shop-ping, entertainment purpose)			
6.	**Cost Engineering**	**3**	Credit	**IC, GC, PC**
Other Types of Training				
Пр.1	**Surveying Practical Training**	**6**	Credit	**PC**
Пр.2	**Geology Training**	**1,5**	Credit	**PC**
Пр.3	**On the Study of Mechanical Characteristics of Materials**	**1,5**	Credit	**PC**
Пр.4	**Construction-Introductory Practi-cal Training**	**1,5**	Credit	**PC**
Пр.5	**Production Training**	**9**	Credit	**PC**
МДР	**Implementation and Presentation of Bachelor's Thesis**	**29,5**	Term paper	**GC, PC**

LIST OF REGULATORY DOCUMENTS

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. http://zakon4.rada.gov.ua/laws/show/1556-18.
5. 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. http://zakon4.rada.gov.ua/laws/show/1341-2011-п.
9. http://zakon4.rada.gov.ua/laws/show/266-2015-п.
10.Лист МОН України від 28.04.2017 № 1/9-239 .