Ministry of Education and Science of Ukraine
State Higher Educational Institution
Ukrainian State University of Chemical Technology

Rector of SHEI USUCT
_____ O.A. Pivovarov
«____»_____2019 p.

EDUCATIONAL-PROFESSIONAL PROGRAM

The first (bachelor's) level
(name of the level of higher education)

Bachelor
(name of the degree to be assigned)

BRANCH OF KNOWLEDGE **15 automation and instrumentation**
(cipher and name of the field of knowledge)

SPECIALTY **152 metrology and information and measurement technology**
(the code and the name of the specialty)

SPECIALIZATION **-**
(if available)

Approved at the meeting of the
Academic Council of SHEI USUCT
from « »_____2019
protocol №____

Dniepr
2019

Letter of approval

EDUCATIONAL PROFESSIONAL PROGRAM

Higher education level	The first (bachelor's) level
Branch of knowledge	15 Automation and instrumentation
Specialty	152 metrology and information and measurement technique
Specialization	Metrology and measuring technique
"AGREED"	"DEVELOPERS"
The first vice-rector, the head of the scientific and methodical council of the SHEI USUCT _____ Goleus V.I. (signature) (surname and initials) "_____" _____ 2019	Project team leader _____ Chernetsky Ye.V. (signature) (surname and initials) "_____" _____ 2019
Head of the NSC _____ Smotraev R.V. (signature) (surname and initials) "_____" _____ 2019	Project team members _____ Alevskyy V.I. (signature) (surname and initials) "_____" _____ 2019
Scientific-methodical department _____ Fomenko G.V. (signature) (surname and initials) "_____" _____ 2019	_____ Oliynyk O.Yu. (signature) (surname and initials) "_____" _____ 2019
Dean of the Faculty of Science and Technology _____ Levchuk I.L. (signature) (surname and initials) "_____" _____ 2019	
Head of Department _____ Taranenko Yu.K. (signature) (surname and initials) "_____" _____ 2019	

I. PROFILE OF THE EDUCATIONAL PROFESSIONAL PROGRAM OF BACHELOR
on the specialty "Metrology and information-measuring technique"

Program profile (general information)	
Full name of the qualification in the original language	Bachelor of Metrology and Information Technology
The official name of the educational program	Educational and professional bachelor's degree program on metrology and information and measuring technology
Type of diploma and volume of educational program	Bachelor's degree in metrology and information-measuring technology , unitary; 240 ECTS credits
Full name of higher education institution awarding qualification	State Higher Educational Institution "Ukrainian State Chemical Technology University"
Accrediting organization	Accreditation Commission of Ukraine (DUU "Educational and Methodological Center for Quality of Education"). DESTINY
Period of accreditation	Accredited in 2012 Certificate ND-II, № 0423200, validity period of the certificate of accreditation till 01.07.2017 .
Cycle / Level	NRC Ukraine - level 6, FQ-EHEA - first cycle, EQF-LLL - 6 level
Prerequisites	Complete secondary education; elementary level (short cycle) of higher education - junior bachelor of the corresponding field of knowledge (15 Automation and instrumentation)
Language (s) of teaching	Ukrainian language
A	**The purpose of the educational program**
The purpose of the educational program	Training of bachelor's specialists in metrology and information-measuring techniques for employment in the chosen specialty and further education at the higher educational level
B	**Characteristics of the educational program**
Subject area (branch of knowledge, specialty)	Branch of Knowledge 15 - *automation and Instrumentation*: specialty 152 - *metrology and information-measuring technique*; **Theoretical content.** • Basic concepts and concepts in the field of metrology and information measuring technology to ensure the unity of measurements, the principles of constructing measuring equipment for the development of the instrument industry, optimal ways of automation of experimental research in order to obtain reliable information about the objects of measurement, the principles of metrological activity to improve the quality products. **Learning objectives.** • Application of acquired competencies in the development and use of measuring instruments (measuring instruments, measuring systems, measures and standards, standard samples and any parts of measuring instruments or measuring systems), the use of information technology for the

	processing of measurement results and automation of metrological activity, performance of organizational and technical works, applied researches in the field of metrology and metrology activities. **Objects of study.** • Principles of construction of measuring equipment (phenomena, phenomena used in obtaining measurement information from objects), principles and methods of reproduction of reference quantities, standard samples. Methods, tools and technology. • Methods and means of measurement, methods of their construction, information technologies in the development of software for measuring instruments and software for processing measurement results. Tools and equipment. • A student of higher education may use the means of measuring equipment, tools and equipment used in the manufacture and adjustment of measuring instruments, during their testing and in the performance of work related to metrology activities.
The main focus of the program and specialization	The first level of higher education in the field of automation and instrumentation.
Program orientation	The research line is scientifically oriented, the application line is practically oriented.
Features and differences	The program is scientifically and practically oriented.
C	**Ability to work and study**
Ability to work	The specialist is trained to work in high-tech companies in industry, departments, research organizations, research centers, laboratories according to the names of types of economic activities, filed in the National Classifier of Ukraine: Classification of types of economic activity (NKU: KVED DK 009: 2010 effective as of 01.01.2010) sections C, D, E, M (class 72.19). According to the classification of professions DK 003: 2010 (with changes approved by the order of the Ministry of Economic Development and Trade of Ukraine of August 10, 2016, No. 1328), a specialist is able to perform professional work: 3111 - Technician-technologist 3112 - design engineer 3114 - Designer (Electronics) 3115 - Equipment and maintenance technician 3115 - Instrument Engineer 3119 - Dispatcher of production 3119 - Technician in metrology 3119 - Technician for adjustment and testing 3119 - Standardization Technician 3121 - Technician-programmer 3152 - Technician-inspector
Further training	The bachelor can continue education for the OCR "master" having passed the appropriate exams. Ability to study at the second level program in this field of knowledge (in accordance with the obtained bachelor's degree) or an adjoining master's educational-professional program.

D	**Style of teaching and methods of training**	
Approaches to teaching and learning	Combination of lectures, practical and seminar classes, laboratory works, consultations with teachers, writing of course projects or works, self	
Methods of evaluation	Written and oral examinations, credits, current control, coursework and term papers protection, state certification	
E	**Program competencies**	
Integral competence (INT)	Bachelor (level 6): Ability to solve complex specialized problems and practical problems in the field of instrumentation and automation of metrological activity, or in the process of training, which involves the application of methods and principles of metrology, methods of construction of measuring equipment, including systems, information technology as the field of designing products of instrumentation, as well as the processing of measurement information in situations characterized by uncertainty of conditions and requirements.	
General competencies	***System competencies***	***Normative content of training***
	SC-1 Ability to learn, acquire new knowledge, skills, including in a field other than professional	KNOWLEDGE on disciplines of the cycle of natural science training TO BE ABLE use acquired knowledge when working in a field other than professional
	SC-2 Ability to apply professional knowledge and skills in practice	KNOWLEDGE of methods of application and building of means of measuring equipment. EXPERIENCE to organize laboratory experiments with the use of measuring instruments.
	SC-3 Ability to flexibly adapt to different professional situations, demonstrate a creative approach, initiative	KNOWLEDGE on disciplines of social and humanitarian preparation. LICENSE to apply contacts in situations of professional orientation. The ability to take into account the specific situation when planning and carrying out its activities.
	SC-4 Ability to critically evaluate and rethink the accumulated experience (own and foreign), to analyze their professional and social activity	KNOWLEDGE on disciplines of social and humanitarian and language training. WILLING to annotate or referencing Ukrainian and foreign sources of information. LITERATURE to make written contacts in situations of professional communication.
	SC-5 Ability to conduct research, including analysis of problems, setting goals and objectives, the choice of method and methods of research, as well as assessment of its quality	KNOWLEDGE of the main stages of conducting researches, measurements, methods of measuring. THE ABILITY to determine the purpose and tasks of the experiment, measurement methods, measured values as object parameters that are informative,

	measurable and invariant to influences.
SC-6 Ability to organize its activities, operate autonomously and in a team	THE ABILITY to perceive criticism and respond adequately to comments. THE ABILITY to adapt and be sociable.
Instrumental competencies	***Normative content of training***
IC-1 Ability to solve problems in professional activity on the basis of analysis and synthesis	KNOWLEDGE of methods of analysis and synthesis in the study, design and testing of objects, technological processes, equipment. THE ABILITY to use information technology in solving complex problems of analysis and synthesis.
IC-2 Ability to work with information: to find, evaluate and use information from various sources necessary for solving scientific and professional tasks.	KNOWLEDGE of vocabulary and grammatical reserve of professional orientation. KNOWLEDGE of professional terminology. LICENSE to collect and analyze information from foreign electronic sources.
IC-3 Ability to use basic knowledge in the field of natural sciences, social sciences, humanities and economics in professional activity	KNOWLEDGE of systems and methods of management of concrete production (shop, department, section). LICENSE to apply the obtained knowledge while conducting independent development and research. THE ABILITY to determine and evaluate the level of excellence in the management system of a specific production site. THE ABILITY to determine and evaluate the level of mechanization, automation, and computerization of a particular production site.
IC -4 Ability to competently build communication, based on the purposes and situation of communication	LINGUISTICS to choose a communication strategy and ways of communication when organizing production and research work based on the goals set.
Social-personal competencies	***Normative content of training***
SPC-1 Ability to take responsible decision making taking into account social and ethical values and legal norms	KNOWLEDGE OF ethical norms of behavior in relation to other people and in relation to the environment (principles of bioethics), knowledge of legal norms. LITERACY to comply with ethical and legal norms.
SPC-2 Ability to competently build communication, based on the purposes and situation of communication	KNOWLEDGE of effective communication interactions. KNOWLEDGE of organizational courses to accept interests of each party

	SPC-3 Ability to carry out industrial or applied activities in the international environment	Linguistic ability to speak fluent Ukrainian and Russian languages, to speak another language at the level of understanding, reading and translation with a dictionary.
	SPC-4 Ability to realize and take into account socio-cultural differences in professional activity	EXPERIENCE to adapt activity (their, collective, organization) to different requirements and requirements of the consumer
	SPC-5 Ability to comprehensively define goals in professional and personal development	THE ABILITY to analyze, compare and select action options in the spheres of production, social and domestic relations, taking into account both public and private interests.
	SPC-6 Capacity for social interaction, cooperation and conflict resolution	THE ABILITY to assess the interests of individual social groups, different groups (unions), to find out the commonality of such interests and the contradictions between them
	SPC-7 Ability to maintain a general level of physical activity and health for active social and professional activities	EXPERIENCE to find time and plan the load for their own daily physical self-improvement
	SPC-8 Ability to understand and analyze worldview, social and personal significant problems and processes taking place in society.	LOCATION to raise respect for state laws, norms of social life, ethical norms of behavior in everyday life, in the family, in the production team
	SPC-9 Ability to navigate the system of universal values and values of world and national culture, to understand the significance of humanistic values for the preservation and development of modern civilization	KNOWLEDGE about the values of world and domestic culture, tolerant attitude towards different peoples, customs, religions, the rights of peoples and individuals, the idea of preserving peace.
Special (professional) competencies	***Professional competence***	***Normative content of training***
	Design and development activities	
	DD-1 Ability to freely use the terminology of the specialty, to understand, to use scientific and technical documentation of the state metrology system of Ukraine	KNOWLEDGE - basic concepts of metrology and its methodology; - the bases of the measuring equipment necessary for carrying out of experimental researches and processing of results of experiments; - basic methods for increasing the accuracy of measurements; - Fundamentals of the theory of measurement errors and measuring instruments; - ways of presenting measurement results
	DD-2 Ability to understand and use world technical documentation, in particular, international and interstate recommendations and guidelines on specialty	
	DD-3 Ability to perform analysis	

	of component errors based on their essential features and to operate component errors in accordance with their models, in particular, during the analysis and synthesis of measuring instruments; the ability to normalize the errors of measuring instruments	with uncertainty; - methods of standardization of metrological characteristics of measuring equipment and methods of their estimation by calculations and experiment; - bases of metrological maintenance; - principles of construction of measuring converters; - principles of work, designs, main characteristics, features of the use of measuring transducers; - basic methods and means of formation of informative parameters of output signals; - basic methods of measuring physical quantities; - types of analog and digital signals and methods for their processing; - construction and use of measures and standards of physical quantities; fundamental fundamentals of informatics, software *, computer technology, computer networks and telecommunications, the basics of modern technologies for performing statistical tasks, and the intricacies of work in graphic programming environments * when creating systems for processing and analyzing data of scientific experiments, modern methods of developing and using relational databases data in the processing of experimental data; - the fundamental foundations of modern algorithmization and programming technologies, practical programming techniques, modern methods of developing and using databases in the processing of experimental data; when creating information systems and user applications with a graphical interface; - basic provisions and requirements for design documentation; - the basic provisions of standard methods of calculation and design of parts, nodes, mechanisms and structures of physical quantities converters. BE ABLE - to evaluate the characteristics of the
	DD-4 Ability to conduct analysis of metrological characteristics * of measuring equipment at the level of structural schemes, to form a measurement equation and errors of measuring equipment	
	DD-5 Ability to carry out work on the design of measuring equipment, based on the theoretical basis of the issues of measuring information measurement in digital measuring technology and the theoretical basis on the information characteristics of measuring equipment	
	DD-6 Ability to operate with general theoretical knowledge of static and dynamic characteristics of measuring transducers during sketch design of measuring systems	
	DD-7 Ability to apply knowledge about the means of forming the output signals of measuring transducers when constructing circuits of secondary transformation and processing of information-measuring signals	
	DD-8 Ability to apply knowledge about the impact of noise of different nature on the signals of measuring transducers in the construction of protection schemes and the elimination of the impact of noise on the useful signal	
	DD-9 Ability to produce a synthesis of structural, functional and principle diagrams of devices	

	and systems for measuring parameters of technological and environmental objects and wildlife on the basis of measuring transducers	total error of the measuring equipment on the characteristics of structural blocks; - to estimate the dynamic error on the dynamic characteristics of the measuring equipment and characteristics of the object; - to evaluate the components of the error of the computing component of the measuring instrument; - to evaluate the main characteristics of the measuring transducers; - calculate informative parameters of output signals according to known characteristics of measuring transducers; - use knowledge of physical phenomena when constructing measuring transducers; - develop separate types of measuring transducers; - choose a method and a means of measurement based on a specific measurement task; - on the basis of a set of determined means of measuring technology with the help of existing software to build a database; - having the results of laboratory bench tests and given technical characteristics with the help of software to determine the ratio of test results to the given standards; - under the guidance of a professional, using the governing and regulatory documents regulating the metrological activity at the enterprise, to formulate requirements for the database structure for the automated information management system of the metrological activity of the enterprise; - on the basis of the technical documentation on the measuring equipment used in the subdivisions of the enterprise, and the reference literature, to form a database on the means of measuring equipment; - based on the structure of the database of the information-control system, with the help of guidance and normative documents, to form a database of
	DD-10 Ability to choose the methods of measuring a given physical quantity, depending on the given accuracy of measurement, and to make comparisons and the choice of different methods for measuring the physical value, depending on the purpose of the measurement problem	
	DD-11 Ability to compose a structural, functional and principle diagram of measuring equipment, to develop graphic and text design documents of measuring equipment	
	DD-12 Ability to analyze, explain and describe the principles of computing systems and their constituent parts, analyze the work of hardware and software *	
	DD-13 Ability to use modern engineering and mathematical packages for the creation of virtual instruments and systems of measurement and analysis of physical quantities used in scientific experiments, real laboratory and industrial installations	
	DD-14 Ability to design and document documentation in accordance with the requirements of standards	
	DD-15 Ability to compile and analyze existing algorithms of programs andrapid development of application software	
	DD-16 Ability to interact directly with the operating system and database libraries *	
	DD-17 Ability to develop and produce software documentation in accordance with the requirements of the system software	

	documentation	normative documents regulating the metrological activity at the enterprise; - to develop the main types of graphic and textual design documentation in accordance with the standards; - perform typical calculations of parts and knots using modern computer tools and programs; - Using computer graphics and design methods to develop graphic design documentation.
	DD-18 Ability to design and conduct an analysis of electrical circuits with the help of circuit design, in order to select an element base for their implementation *	
	DD-19 Ability to issue principal schemes in accordance with the rules and requirements of standards; the ability to explain and describe the principle of electronic devices	
	DD-20 Ability to apply standard methods of calculation when designing parts and units of measuring equipment and non-standard products *	
	Production-technological activity	
	DD-21 Ability to determine based on standardized characteristics of measuring equipment measurement result and instrumental component of measurement uncertainty, to submit result with indication of uncertainty of measurement	KNOWLEDGE - ways of presenting measurement results with uncertainty; - methods of metering metrological characteristics of measuring equipment and methods of their estimation by calculations and experiment; - bases of metrological maintenance; - technical means and methods of information technologies; - modern methods and technologies of compiling electronic circuits and their means of realization, development of principle circuits with given technical parameters. BE ABLE - to evaluate the result of the measurement and the instrumental component of the measurement error based on the known metrological characteristics of the measuring equipment; -to apply methods of presenting a measurement result with uncertainty; - to estimate errors of direct and indirect, one-time and multiple measurements taking into account the characteristics of the object, means of measuring equipment, measurement conditions and submit results of measurements with
	DD-22 Ability to process the results of direct (single and multiple) measurements, mediated (single and multiple) measurements, aggregate and compatible measurements	
	DD-23 Ability to test, calibrate, calibrate and other operations of metrological activity on the basis of the current principles of metrological support *	
	DD-24 Ability to conduct a measurement experiment, based on knowledge of methods for measuring a given physical quantity	
	DD-25 Ability to test materials and instrumentation devices	
	PC-26 Ability to place elements on a PCB, based on the schematic design and standard sizes of structures, using existing regulatory documents and	

	software application packages	uncertainty; - to work with control and measuring equipment; -to conduct tests of magnetic materials on a constant and alternating current; - to use the means of measuring technology based on the measurement method implemented in them, the required accuracy of the measurement and other conditions; - in proceeding with the task, using the proposed electronic components and normative and technical documents for them, appropriate equipment in the laboratory to make a prototype device ; - using the technical means with the help of existing methods in the laboratory to conduct a test of the prototype; - using the results of the experiment, existing methods to draw up protocols of studies of units of measuring devices; - using the technical specification, the technical literature, the circuit of the measuring transducer and the selected construction to calculate its main elements; - proceeding from the chosen type and the results of the calculation of the measuring transducer, using the technical literature to calculate the measurement circuit of the connection of the primary converter.
	DD-27 Ability to compile test reports ,proceeding from the results of experimental data processing, using normative documentation, using available software tools	
	DD-28 Ability, using a database, using reference materials, to choose technical solutions that meet international standards	
	DD-29 Ability to develop methods and to carry out experimental studies on the analysis and optimization of characteristics of elements of information measuring systems	
	DD-30 Ability to design and implement technological processes and methods of manufacturing, quality control of elements and nodes of different purposes; the ability todevelop standards of production, technological standards for the cost of materials, to the choice of tools, equipment, to evaluate the economic efficiency of technological processes	
	DD-31 Ability to provide metrological support for technological processes of production of information-measuring systems and their elements, the use of standard methods for controlling the characteristics of products and parameters of technological processes	
	Organizational-managerial activity	
	DD-32 Ability to plan a measurement procedure based on the purpose of measurement and process measurement results	KNOWLEDGE - rules of work with the documentation and its use during professional activity; - rules for organizing the procedure for measuring, calibrating, testing when working in a group. BE ABLE - to plan the sequence of actions during carrying out of measuring operations and processing of results of measurements;
	DD-33 Ability to formulate requirements for the equipment required for the measurement	
	DD-34 Ability to organize and carry out calibration of measuring equipment	
	DD-35 Ability to organize the	

	work of the production team, the adoption of executive decisions	-to organize a workplace for measurements, calibrations, tests, etc.; - document the results of measurements, calibrations, tests, etc.; -to distribute responsibilities when working in a group that ensures maximum efficiency
	DD-36 Ability to develop design and engineering works plans and manage their progress, including providing relevant services with the necessary technical documentation, materials, equipment	
	DD-37 Ability to find optimal solutions when creating products, taking into account the requirements of quality, cost, timing, competitiveness and safety of life	
	DD-38 Ability to establish the order of works and organization of technological passage of elements and units of devices and systems in their manufacture.	
	DD-39 Ability to accommodate technological equipment, technical equipment and organization of workplaces, calculation of production capacities and equipment loading	
	DD-40 Ability to perform technical control of the manufacture of devices and participate in managing its quality of the experiment and draw conclusions based on their analysis.	
	Research activities	
	DD-41 Ability to document results	KNOWLEDGE - on the methods of systematization of experimental information - regarding the testing of hypotheses put forward - checking the statistical criteria of the significance of the investigated factors; - modern methods of circuit design and analysis of electronic circuits **.** BE ABLE -to apply methods of systematization of experimental information; -to apply methods of testing the hypotheses put forward; -to apply statistical criteria of
	PC-42 Ability to construct mathematical models for analysis and optimization of research objects and the choice of numerical method for their modeling, choice of algorithm for solving a problem	
	DD-43 Ability to develop individual programs and their units, their configuration and configuration for various tasks, including tasks of design, research and control of devices and systems	

	DD-44 Ability to perform mathematical (computer) simulation for the purpose of analysis and optimization of object parameters on the basis of available research and design resources, including standard automated design and research packages	significance of the investigated factors; - using the technical task for the development and results of the analysis of the current state of development of measuring equipment with the help of sources of scientific and technical information to form options for possible circuit decisions; - based on the technical specification and the list of circuit decisions of the same designation using existing applications, perform simulation simulation of the characteristics of the transformation of component modules of the measuring equipment.
	DD-45 Ability to choose a method and develop programs of experimental research, measurements with the choice of technical means and the processing of results	
	DD-46 Ability to prepare data for the preparation of reports, reviews and other technical documentation	
	DD-47 Ability to perform debugging and experimental testing of certain types of devices in laboratory conditions and on objects.	

F	Program learning outcomes
Learning outcomes in the cognitive sphere	LCS-1 Knowledge and understanding of modern methods of conducting scientific research, physical and mathematical methods applied in engineering and research practice, at the level necessary for achieving other results of educational program. LCS-2 Knowledge and understanding of the basic concepts of metrology, measurement theory, mathematical and computer modeling, modern methods of processing and evaluation of the accuracy of the measurement experiment, standardization and conformity assessment at the level necessary to achieve other program results, including some awareness in the latter achievements LCS-3 Knowledge of modern methods and software for constructing adequate theoretical models and methods of their substantiation. LCS-4 Ability to analyze complex engineering tasks, processes and systems according to specialization; to select and apply suitable standard analytical, computational and experimental methods; the ability to interpret the results of such studies. LCS-5 Knowledge of composition, content and methods of development of methodological and normative documentation concerning metrological activity in Ukraine and in international practice. LCS-6 Knowledge of algorithms and schemes of carrying out of calibration, calibration, conformity checking as information-measuring systems as a whole, as well as its separate elements. LCS-7 Knowledge and ability to use in practice structural and algorithmic methods for increasing the accuracy of measurements and the probability of control, including using computerized systems.

	LCS-8 Knowledge of the basic principles of realization of metrological activity at different stages of the life cycle of information-measuring systems and its individual modules. LCS-9 Knowledge of the bases of professional-oriented disciplines of the specialty, methods and means of measuring electric and magnetic quantities, methods and means of measuring mechanical quantities, the theory of errors and uncertainty, the theory of measuring transducers, virtual measuring instruments. LCS-10 Ability to identify, classify and describe the operation of devices and systems and their modules. LCS-11 Ability to use information about technical characteristics, design features, purpose and conditions of operation of equipment and equipment in solving problems of measurement and their application. LCS-12 Knowledge of the basic principles of organization and construction of information-measuring systems, the ability to take into account the specific features of their application, to determine the accuracy of the characteristics of systems and their individual modules. LCS-13 Knowledge of the basic principles of the theory, organization and planning of the measurement experiment, to be able to choose the plan according to the model of the object, to conduct the experiment, including using computerized systems. LCS-14 Ability to represent and discuss scientific results in a foreign language (in English or another, according to the specialty of the specialty) in oral and written forms, to participate in scientific discussions and conferences. LCS-15 To know and be able to use the means of modern information technologies for the decision of tasks in the field of metrology and information-measuring technique.
Learning outcomes in the value-motivational sphere	OVMS-1 To meet the requirements of professional ethics in the workplace. OVMS-2To participate in discussing the results of various types of work (research, search, design, etc.). OVMS-3 To show the desire to work independently . OVMS-4To ask questions in discussions with colleagues and teachers . OVMS-5To demonstrate the received professional skills in the creation of scientific and project documentation. OVMS-6To organize safety precautions in the workplace. OVMS-7To collaborate with colleagues in related fields to achieve research or project objectives.
Results of training in the psychomotor sphere	RPS-1To exercise the experiment method RPS-2 Repeatedly reproduce the results of experiments for obtaining reliable values and calculating the experiment error. RPS-3To combine different research methods to determine the values of the studied parameters and characteristics. RPS-4 Adhere to safety equipment in the workplace.

II DETERMINATION OF TRAINING DISCIPLINES / MODULES, which will ensure the achievement of planned learning outcomes and forms of certification of applicants for higher education for an educational program in accordance with the standard of higher education

Table 1 - Distribution of the contents of the educational-professional program in terms of training cycles and form of final control

№	Subjects	Loans	Hours	Semester	Tetramestr	Final control
	1 MANDATORY PART					
	1.1 Cycle of general training (generates general competencies)					
1.1.1	Ukrainian language (as a foreign language)	24	720	3-75	5-14	ex
1.1.2	Russian language (as a foreign language)	17	510	1-2	1-4	test
1.1.3	Probability Theory, Probability Processes, and Mathematical Statistics	4	120	3	5-6	test
1.1.4	Higher mathematics	15	450	1-2	1-4	ex
1.1.5	Physics	12	360	2-3	5-6	ex
1.1.6	Chemistry	5	150	2	3-4	d/test
1.1.7	Engineering and computer graphics	6	180	1-2	1-4	d/test
1.1.8	Computer engineering and programming	12	360	1-2	1-3	ex
	SUM TOTAL *by Cycle 1.1*	***95***	***2850***			
	1.2 Cycle of professional training (forms special (professional) competencies)					
1.2.1	Electrical engineering and electromechanics	6	180	3	5-6	ex
1.2.2	The theory of electric signals and circles	10	300	4	7-8	ex
1.2.3	Basics of industrialelectronics	11	330	5-6	9-11	ex
1.2.4	Metrology and Measurement	11	330	5	9,10	ex
1.2.5	Measuring transducers	7	210	6	11-12	ex
1.2.6	Methods and Means of Measurement	9	270	6	11-12	ex
1.2.7	Basics of labor protection	3	90	8	15	ex
1.2.8	Economics and organization of chemical production	3	90	7	13-14	ex
1.2.9	Whirlpool obnycha practice	6	180	8	16	d/test
1.2.10	Preparation of qualifying bachelor's work and state certification	9	270	8	16	YES

	SUM TOTAL *by Cycle 1.2*	***75***	***2250***			
	MANDATORY PART WITH TOTAL	**170**	**5100**			
2 CHECKING PART						
2.1 General training cycle (generates general competencies)						
2.1.1	Production processes and equipment of automation objects	4	120	4	7-8	ex
2.1.2	Physical chemistry	2	60	5	9	test
2.1.3	General chemical technology	3	90	6	11	test
2.1.4	Material science and materials processing	2	60	4	7	test
	SUM TOTAL *by Cycle 2.1*	***11***	***330***			
2.2 Cycle of professional training (generates special (professional) competencies)						
2.2.1	Introduction to the theory of systems	5	150	4	7-8	test
2.2.3	Experimental research of systems	5	150	7	13	test
2.2.4	Applied Mechanics	6	180	3	5,6	d/test
2.2.5	Microprocessor technology	8	240	6	12	ex
2.2.6	Qualimetry and quality management	4	120	8	15	ex
2.2.7	Analog and digital measuring devices	10	300	7,8	13-15	ex
2.2.8	Designing systems and measuring tools	6	180	7	14	ex
2.2.9	Automation of technological processes	5	150	7	13.14	ex
2.2.11	Tests and product quality control	4	120	8	15	d/test
2.2.12	Additional sections for compulsory discipline 1.1.8	6	180	4	8	ex
	SUM TOTAL *by Cycle 2.2*	***59***	***1770***			
	CURRENT PART WITH TIME	**70**	**2100**			
	TOTAL VOLUME	**240**	**7200**			

Table 2: **Generalized distribution of the content of the educational and professional program**
by groups of components (disciplines) and training cycles

№	Training cycle	Educational load of the applicant of higher education (credits / %)		
		Compulsory components of an educationalvocational program	Elective components of the educational-professional program	Total for the whole period of study
1	General training cycle (generates general competencies)	95,0/39,6	11,0/4,6	106,0/44,2

2	Cycle of professional training (forms special (professional) competence)	75,0/31,3	59,0/24,6	134,0/55,8
Total for the whole period of study		170/70,8	70/29,2	240/100

Table 3 - List of disciplines of the educational-professional program of preparation of applicants for education of the first (Bachelor) level, ECTS training time in training cycles, and a list of established competencies and learning outcomes

Training cycles	Criteria of competencies	Criteria for learning outcomes	List of disciplines	ECTS Loans
1	2	3	4	5
1.1. General training cycle (generates general competencies)	INT, SC-4, IC-2, COK-2, COK-3	OVMS-1, OVMS-4, LCS-14	1.1.1 Ukrainian language (as a foreign language)	24
	INT, SC-4, IC-2, COK-2, COK-3	OVMS-1, OVMS-4, LCS-14	1.1.2 Russian language (as a foreign language)	17
	INT, SC-3, SC-6, COK-4,COK-5, COK-6, COK-8,COK-9	LCS-14, OVMS-1, OVMS-2	1.1.3 Probability theory, probability processes, and mathematical statistics	4
	INT, SC-1	LCS-1, OVMS-4, OVMS-7	1.1.4 Higher Mathematics	15
	INT, SC-1, IC-1, DD-24	LCS-1, OVMS-4, OVMS-7	1.1.5 Physics	12
	INT, SC-1, IC-1, DD-24	LCS-1, OVMS-4, OVMS-7	1.1.6 Chemistry	5
	INT, SC-1, SC-2, DD-11, DD-20,	OVMS-7	1.1.7 Engineering and computer graphics	6
	INT, SC-1, SC-2, IC-2,IC-3, DD-4, DD-11,DD-12, DD-15,DD-16, DD-20,DD-4, DD-28, DD-36, DD-42, DD-43, DD-44, DD-46	LCS-1, LCS-2, LCS-3, LCS-7, LCS-12, LCS-13, LCS-15, OVMS-4, OVMS-5	1.1.8 Computer engineering and programming	12
			SUM TOTAL 1.1	**95**
1.2 Cycle of professional training (forms special (professional)	INT, SC-2, IC-1, DD-13, DD-18, DD-19, DD-29	LCS-1, LCS-2, LCS-3 LCS-9, RPS-4	1.2.1 Electrical engineering and electromechanics	6
	INT, SC-2, IC-1, DD-5, DD-8, DD-29	LCS-1, LCS-2, LCS-3, LCS-9, OVMS-3, OVMS-5	1.2.2 The theory of electrical signals and circles	10
	INT,SC-2, DD-10, DD-13, DD-18DD-19, DD-29	LCS-1, LCS-3, LCS-9, LCS-11, OVMS-2, OVMS-3, OVMS-5	1.2.3 Basics of industrial electronics	11

competence)	INT, SC-2, SC-5, IC-2, DD-1, DD-2, DD-3, DD-4, DD-8, DD-11, DD-13, DD-17, DD-21, DD-22, DD-23, DD-27, DD-29, DD-32, DD-33, DD-34, DD-41, DD-43	LCS-2, LCS-3, LCS-5, LCS-6, LCS-7, LCS-8, LCS-9, LCS-12, OVMS-2, OVMS-3, OVMS-5, RPS-2, RPS-3	1.2.4 Metrology and Measurement	11
	INT, SC-2, DD-3, DD-4, DD-6, DD-7, DD-8, DD-9, DD-11, DD-13, DD-29, DD-33, DD-43, DD-47	LCS-3, LCS-9, LCS-10, LCS-11, OVMS-2, OVMS-3, OVMS-5	1.2.5 Measuring transducers	7
	INT, SC-2, IC-1, DD-3, DD-4, DD-7, DD-10, DD-13, DD-21, DD-23, DD-24, DD-25, DD-31, DD-33, DD-34, DD-45	LCS-1, LCS-2, LCS-3, LCS-6, LCS-7, LCS-9, LCS-12, RPS-2, RPS-3	1.2.6 Methods and Means of Measurement	9
	INT, IC-3, DD-37, DD-39	LCS-11, OVMS-6, RPS-4	1.2.7 Basics of labor protection	3
	INT, SC-5, IC-3, DD-30, DD-35, DD-36, DD-37, DD-38, DD-39, DD-44	LCS-12, OVMS-2, OVMS-3, OVMS-5	1.2.8 Economics and organization of chemical production	3
	INT, SC-1, SC-2, SC-3, SC-4, SC-5, SC-6, IC-1, IC-2, IC-3, IC-4, COK-1, COK-2, COK-3, COK-4, COK-5, COK-6, COK-7, COK-8, COK-9, DD-1, DD-2, DD-3, DD-4, DD-5, DD-6, DD-7, DD-8, DD-9, DD-10, DD-11, DD-12, DD-13, DD-14, DD-15, DD-16, DD-17, DD-18, DD-19, DD-20, DD-21, DD-22, DD-23,	LCS-1, LCS-2, LCS-3, LCS-4, LCS-5, LCS-6, LCS-7, LCS-8, LCS-9, LCS-10, LCS-11, LCS-12, LCS-13, LCS-14, LCS-15, OVMS-1, OVMS-2, OVMS-3, OVMS-4, OVMS-5, OVMS-6, OVMS-7, RPS-1, RPS-2, RPS-3, RPS-4	1.2.10 Manufacturing practice	6

	DD-24, DD-25, DD-26, DD-27, DD-28, DD-29, DD-30, DD-31, DD-32, DD-33, DD-34, DD-35, DD-36, DD-37, DD-38, DD-39, DD-40, DD-41, DD-42, DD-43, DD-44, DD-45, DD-46, DD-47			
	INT, SC-1, SC-2, SC-3, SC-4, SC-5, SC-6, IC-1, IC-2, IC-3, IC-4, COK-1, COK-2, COK-3, COK-4, COK-5, COK-6, COK-7, COK-8, COK-9, DD-1, DD-2, DD-3, DD-4, DD-5, DD-6, DD-7, DD-8, DD-9, DD-10, DD-11, DD-12, DD-13, DD-14, DD-15, DD-16, DD-17, DD-18, DD-19, DD-20, DD-21, DD-22, DD-23, DD-24, DD-25, DD-26, DD-27, DD-28, DD-29, DD-30, DD-31, DD-32, DD-33, DD-34, DD-35, DD-36, DD-37, DD-38, DD-39, DD-40, DD-41, DD-42, DD-43, DD-44, DD-45, DD-46, DD-47	LCS-1, LCS-2, LCS-3, LCS-4, LCS-5, LCS-6, LCS-7, LCS-8, LCS-9, LCS-10, LCS-11, LCS-12, LCS-13, LCS-14, LCS-15, OVMS-1 , OVMS-2, OVMS-3, OVMS-4, OVMS-5, OVMS-6, OVMS-7, RPS-1 , RPS-2, RPS-3, RPS-4	1.2.11 Preparation of qualification bachelor's work and state certification	9
			SUM TOTAL 1.2	**75,0**
2.1. General training cycle (generates	INT, SC-1, IC-1	LCS-1, LCS-4, OVMS-7	2.1.1 Production processes and equipment of automation objects	3
	INT, SC-1, IC-1, IC-3	LCS-1, LCS-3, OVMS-7	2.1.2 General chemical	3

general competencies)			technology	
	INT, SC-1, IC-1	LCS-9, OVMS-7	2.1.3 Electrotechnical materials	2
	INT, SC-3, SC-6, IC-4, COK-1, COK-2, COK-4, COK-5, COK-6, COK-8, COK-9	OVMS-1	2.1.4 Political science	2
	INT, SC-5, IC-3, COK-4	LCS-1, OVMS-4,OVMS-7	2.1.5 Economic theory	2
	INT, SC-3, COK-1, COK-2, COK-6, COK-8, COK-9	OVMS-2, OVMS-7	2.1.6 Jurisprudence	2
	INT, SC-3, SC-6, COK-4, COK-5, COK-6, COK-8, COK-9	LCS-14, OVMS-1 , OVMS-2	2.1.7 Additional sections for compulsory discipline 1.1.3	1
	INT, SC-4, IC-2, COK-2, COK-3	LCS-14, OVMS-1, OVMS-4	2.1.8 Additional sections for compulsory discipline 1.1.5	3
	INT, SC-1	LCS-1, OVMS-4, OVMS-7	2.1.9 Additional sections for compulsory discipline 1.1.6	11
	INT, SC-1, IC-1, DD-24	LCS-1, OVMS-4, OVMS-7	2.1.10 Additional sections for compulsory discipline 1.1.7	5
	INT, SC-1, IC-1, DD-24	LCS-1, OVMS-4, OVMS-7	2.1.11 Additional sections to mandatory discipline 1.1.8	2
	INT, SC-1, SC-2,DD-11, DD-20,	OVMS-7	2.1.12 Additional sections for compulsory discipline 1.1.9	2
	INT, SC-1, SC-2, IC-2,IC-3, DD-4, DD-11,DD-12, DD-15,DD-16, DD-20,DD-4, DD-28, DD-36, DD-42, DD-43, DD-44, DD-46	LCS-1, LCS-2, LCS-3, LCS-7, LCS-12, LCS-13, LCS-15, OVMS-4, OVMS-5	2.1.13 Additional sections for compulsory discipline 1.1.10	11
			SUM TOTAL 2.1	**11**
2.2 Cycle of	INT, IC-1, DD-5, DD-6, DD-13	LCS-1, LCS-3, LCS-9	2.2.1 Introduction to the theory of systems	5

professional training (forms special (professional) competence)	INT, SC-5, IC-1, DD-3, DD-4, DD-13, DD-22, DD-24, DD-27, DD-29, DD-31, DD-32, DD-35, DD-41, DD-42, DD-45	LCS-1, LCS-2, LCS-3, LCS-4, LCS-10, LCS-13, OVMS-2, RPS-1, RPS-2, RPS-3	2.2.2 Experimental systems research	5
	INT, SC-2, IC-1, IC-3, DD-20, DD-24, DD-40	LCS-9, LCS-11	2.2.3 Applied Mechanics	6
	INT, SC-2, DD-7, DD-12, DD-13, DD-15, DD-18, DD-19, DD-26, DD-29, DD-43, DD-47	LCS-3, LCS-9, LCS-10, LCS-11, LCS-12, OVMS-2, OVMS-3, OVMS-5	2.2.4 Microprocessor technology	8
	INT, SC-2, SC-5, IC-1, DD-3, DD-10, DD-13, DD-14, DD-21, DD-23, DD-24, DD-25, DD-27, DD-30, DD-31, DD-32, DD-33, DD-34, DD-37, DD-40, DD-41	LCS-2, LCS-3, LCS-4, LCS-5, LCS-6, LCS-7, LCS-8, LCS-9, LCS-11, LCS-12, LCS-13, OVMS-2, RPS-3	2.2.5 Qualimetry and quality management	4
	INT, SC-2, DD-3, DD-7, DD-11, DD-13, DD-29, DD-33, DD-43, DD-47	LCS-3, LCS-9, LCS-10, LCS-11, RPS-3	2.2.6 Analog and digital measuring devices	10
	INT, SC-2, SC-5, IC-1, DD-3, DD-4, DD-8, DD-11, DD-12, DD-13, DD-14, DD-17, DD-26, DD-28, DD-29, DD-30, DD-31, DD-32, DD-33, DD-35, DD-36, DD-37, DD-38, DD-39, DD-41, DD-43, DD-44, DD-46	LCS-3, LCS-4, LCS-5, LCS-8, LCS-10, LCS-11, LCS-12, LCS-13, OVMS-2, OVMS-3, OVMS-5, RPS-3, RPS-4	2.2.7 Designing systems and measuring tools	6
	INT, SC-2, IC-1, IC-3, DD-9, DD-13, DD-30, DD-31,	LCS-1, LCS-3, LCS-4, LCS-10, LCS-11, LCS-12, OVMS-2	2.2.8 Automation of technological processes	5

	DD-32, DD-39, DD-41, DD-47			
	INT, SC-2, SC-5, IC-1, DD-3, DD-10, DD-13, DD-14, DD-21, DD-23, DD-24, DD-25, DD-27, DD-31, DD-32, DD-33, DD-34, DD-37, DD-41	LCS-2, LCS-3, LCS-4, LCS-5, LCS-6, LCS-7, LCS-8, LCS-9, LCS-11, LCS-12, LCS-13, OVMS-2, RPS-3	2.2.9 Tests and product quality control	4
	INT, SC-2, DD-10, DD-13, DD-18DD-19, DD-29	LCS-1, LCS-3, LCS-9, LCS-11, OVMS-2, OVMS-3, OVMS-5	2.2.10 Additional sections for compulsory discipline 1.1.8	6
			SUM TOTAL 2.2	**70**
			SUM TOTAL	**240,0**

Table 4 - Matrix of conformity of program competences to educational components

The code of discipline for the curriculum	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.1.8	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5	1.2.6	1.2.7	1.2.8	1.2.9	1.2.10	1.2.11
INT	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SC-1						+	+	+										+	+
SC-2									+	+	+	+	+	+				+	+
SC-3			+															+	+
SC-4	+	+		+	+													+	+
SC-5												+					+	+	+
SC-6			+															+	+
IC-1							+	+	+	+				+				+	+
IC-2		+			+							+						+	+
IC-3															+	+	+	+	+
IC-4																		+	+
SPC-1	+			+														+	+
SPC-2		+			+													+	+
SPC-3		+			+													+	+
SPC-4			+	+														+	+
SPC-5			+															+	+
SPC-6			+															+	+
SPC-7																		+	+
SPC-8			+	+														+	+
SPC-9	+		+	+														+	+

DD-1												+						+	+
DD-2												+						+	+
DD-3												+	+	+				+	+
DD-4												+	+	+				+	+
DD-5										+								+	+
DD-6													+					+	+
DD-7													+	+				+	+
DD-8										+		+	+					+	+
DD-9													+					+	+
DD-10											+			+				+	+
DD-11												+	+					+	+
DD-12																		+	+
DD-13									+		+	+	+	+				+	+
DD-14																		+	+
DD-15																		+	+
DD-16																		+	+
DD-17												+						+	+
DD-18									+		+							+	+
DD-19									+		+							+	+
DD-20																		+	+
DD-21												+		+				+	+
DD-22												+						+	+
DD-23												+		+				+	+
DD-24							+	+						+				+	+
DD-25														+				+	+
DD-26																		+	+
DD-27												+						+	+
DD-28																		+	+
DD-29									+	+	+	+	+					+	+
DD-30																	+	+	+
DD-31														+				+	+

DD-32												+						+	+
DD-33												+	+	+				+	+
DD-34												+		+				+	+
DD-35																	+	+	+
DD-36																	+	+	+
DD-37															+	+	+	+	+
DD-38																	+	+	+
DD-39															+	+	+	+	+
DD-40																		+	+
DD-41												+						+	+
DD-42																		+	+
DD-43												+	+					+	+
DD-44																	+	+	+
DD-45														+				+	+
DD-46																		+	+
DD-47													+					+	+

Table 4 - Continuation

The code of discipline for the curriculum	2.1.1	2.1.2	2.1.3	2.1.4	2.2.1	2.2.2	2.2.3	2.2.4	2.2.5	2.2.6	2.2.7	2.2.8	2.2.9	2.2.10
INT	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SC-1	+	+	+											
SC-2								+	+	+	+	+	+	+
SC-3				+										
SC-4														
SC-5							+			+		+		
SC-6				+										
IC-1	+	+	+		+	+	+	+		+		+	+	+
IC-2														
IC-3		+						+					+	
IC-4				+										
SPC-1				+										
SPC-2				+										
SPC-3														
SPC-4				+										
SPC-5				+										
SPC-6				+										
SPC-7														
SPC-8				+										
SPC-9				+										

DD-1														
DD-2														
DD-3							+			+	+	+		+
DD-4							+					+		
DD-5					+	+								
DD-6					+									
DD-7									+		+			
DD-8												+		
DD-9													+	
DD-10										+				
DD-11											+	+		
DD-12									+			+		
DD-13					+		+		+	+	+	+	+	+
DD-14										+		+		
DD-15									+					
DD-16														
DD-17												+		
DD-18									+					
DD-19									+					
DD-20								+						
DD-21										+				
DD-22							+							
DD-23										+				
DD-24							+	+		+				
DD-25										+				+
DD-26									+			+		
DD-27							+			+				
DD-28												+		
DD-29							+		+		+	+		
DD-30										+		+	+	+
DD-31							+			+		+	+	

DD-32							+			+		+	+	+
DD-33										+	+	+		
DD-34										+				
DD-35							+					+		
DD-36												+		
DD-37										+		+		
DD-38												+		
DD-39												+	+	
DD-40								+		+				
DD-41							+			+		+	+	+
DD-42						+	+							
DD-43									+		+	+		
DD-44												+		
DD-45							+							
DD-46												+		
DD-47									+		+		+	

Table 5 - Matrix of providing programmatic learning outcomes by relevant components of an educational and professional program

The code of discipline for the curriculum	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5	1.2.6	1.2.7	1.2.8	1.2.9	1.2.10	1.2.11
LCS-1						+	+	+	+	+			+				+	+
LCS-2								+	+		+		+				+	+
LCS-3								+	+	+	+	+	+				+	+
LCS-4																	+	+
LCS-5											+						+	+
LCS-6											+		+				+	+
LCS-7											+		+				+	+
LCS-8											+						+	+
LCS-9								+	+	+	+	+	+				+	+
LCS-10												+					+	+
LCS-11										+		+		+	+		+	+
LCS-12											+		+			+	+	+
LCS-13																	+	+
LCS-14			+		+												+	+
LCS-15																	+	+
OVMS-1	+	+	+	+	+												+	+
OVMS-2			+							+	+	+				+	+	+
OVMS-3									+	+	+	+				+	+	+

OVMS-4		+			+	+	+										+	+
OVMS-5									+	+	+	+				+	+	+
OVMS-6														+	+		+	+
OVMS-7						+	+										+	+
RPS-1																	+	+
RPS-2											+		+				+	+
RPS-3											+		+				+	+
RPS-4								+						+	+		+	+

Table 5 - Continuation

The code of discipline for the curriculum	2.1.1	2.1.2	2.1.3	2.1.4	2.2.1	2.2.2	2.2.3	2.2.4	2.2.5	2.2.6	2.2.7	2.2.8	2.2.9	2.2.10
LCS-1	+	+			+	+	+						+	
LCS-2							+			+				+
LCS-3	+				+		+		+	+	+	+	+	+
LCS-4		+					+			+		+	+	
LCS-5										+		+		
LCS-6										+				
LCS-7										+				
LCS-8										+		+		
LCS-9			+		+	+		+	+	+	+			+
LCS-10							+		+		+	+	+	
LCS-11								+	+	+	+	+	+	+
LCS-12									+	+		+	+	
LCS-13							+			+		+		+
LCS-14														
LCS-15														
OVMS-1				+										
OVMS-2							+		+	+		+	+	
OVMS-3									+			+		
OVMS-4														
OVMS-5									+			+		

OVMS-6														
OVMS-7	+	+	+											
RPS-1							+							
RPS-2							+							
RPS-3							+			+	+	+		
RPS-4												+		

III - FORMS OF ATTESTATION OF HIGHER EDUCATION BUILDERS

Forms of certification of applicants for higher education	A mandatory form of state certification establishes the implementation and protection of qualifying (diploma) works (projects). The system of competencies and learning outcomes indicated in sections IV and V are issued to the state attestation. The main means of objective control of the degree of achievement of the ultimate goals of education and training of bachelors is the technology for the implementation and protection of qualifying (diploma) works (projects) defined in the following documents: Regulation on EC, Methodological guidelines for the implementation of qualification (diploma) projects (works)
Requirements for final qualification work (in the presence)	Requirements for the final qualification work are set out in the Methodological Guidelines for the implementation of qualification (diploma) projects (works). The final qualification work is accompanied by a review by the supervisor and a reviewer's review, which is based on verification of the completeness of the tasks, the quality of work in general and its verification of plagiarism.
Requirements for the certification / single state qualification exam (exams) (in the presence)	Not provided
Requirements for public security (demonstrations) (in the presence)	Requirements for public security are formulated in the Regulation on EC and methodological guidelines for the implementation of qualification (diploma) projects (works).

IV - Requirements for the system of internal quality assurance in higher education

Determined in accordance with European Standards and Recommendations for the Quality of Higher Education (ESG) and Article 16 of the Law of Ukraine "On Higher Education"

Components of thesystem of internal quality assurance in higher education	**Definitions, references and relevant documents**
Principles and procedures for ensuring the quality of education	- Law of Ukraine "On Higher Education" of 01.07.2014 № 1556-VII; - Temporary provision on the organization of the educational process at the SHEI USUCT (Order of the Rector of the SHEI USUCT dated 30.11.2015 № 290); - Regulations on the diploma with honors from the SHEI USUCT (Order of the Rector of the SHEI USUCT from 25.02.2016, № 55); - Regulations on the procedure for the creation and organization of the work of the examination commission at the Secondary School of Economics and Business Administration of Ukraine (Rector's Order dated 01.04.2015, № 68); - Regulations on the development of approval and review of working programs of educational disciplines (Order of the Rector of the SHEI USUCT dated 01.12.15, № 291)
Monitoring and periodic review of educational programs	Annual monitoring of industry and labor market requirements, revision of educational programs, work curricula, work programs of academic disciplines.About approval of the composition of the project groups for the development of educational programs (Order of the Rector of the SHEI USUCT dated 10.03.2016, № 74)
Annual assessment of higher education applicants	Regulations on the organization of rector's control over the quality of education (Order of the Rector dated 17.03.2014, № 78)
Annual evaluation ofscientific-pedagogical and pedagogical workers of a higher educational	Regulations on the commission of rector's control pedagogical skills of scientific and pedagogical workers of the University (Order of the Rector of the SHEI USUCT dated 04.04.2016, № 85), Order of application of the rating system for the assessment of the activity of scientific and pedagogical workers of the SHEI USUCT

establishment	(Order of the Rector dated 04.06.2010, № 209 with changes to the order of 09.06.2011, № 147), The procedure for applying the rating system for the assessment of the activities of the departments and faculties of the Secondary School of Economics and Management of the SHEI USUCT (Order of the Rector dated 04.06.2010, № 209). Regularly publishing the results of such assessments on the official website of the higher education institution, on information stands and in any other way.
Improvement of qualification of scientific and pedagogical, pedagogical and scientific workers	Raising the qualification of scientific and pedagogical workers is carried out in accordance with the provision approved by the order of the Ministry of Education and Science of Ukraine from 24.01.2013 № 48 and the Regulations on the upgrading of qualifications and internship of pedagogical and scientific-pedagogical workers of the SHEI USUCT (Order of the Rector of the SHEI USUCT dated 28.05.2016, № 105)
The availability of the necessary resources for the organization of the educational process	Educational, methodological, logistical and personnel support corresponds to licensing conditions (CM Decree dated 30.12.2015, № 1187) of educational activity. License Serial AE № 636496.Certificates in the field of training and specialties.
Availability of information systems for effective management of the educational process	The temporary provision on the organization of the educational process at the SHEI USUCT (Order of the Rector of the SHEI USUCT dated 30.11.2015 № 290) is supported by the Information-analytical control system of the educational process, which consists of subsystems: Applicant, Educational process.
Publicity of information about educational programs, degrees of higher education and qualifications	Information about educational programs, degrees of higher education and qualifications is public and fully disclosed on the official web-portal of the university http://udhtu.com.ua
Prevention and Detection of Academic Plagiarism	Verification of the completeness of the tasks, the quality of work in general and its verification for plagiarism is carried out by the teacher - the head of the course or diploma work (project) in the established procedure with the use of the appropriate software.