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

	Re	ctor of SHE	EI USUCT
			_O.A. Pivovarov
	"_	"	2018
EDUCATIONAL AN	ND PROFESSI	ONAL PR	OGRAM
	Computer scien		
(Name	e of the educational prog	gram)	
8.		11	
	cond (master) le of the higher educ		
(name	of the higher educ	cation level)	
	3.5		
	Master		
(r	name of the granted	l degree)	
BRANCH OF KNOWLEDGE _	12 Informat		logy
(code and nar	me of the branch of	knowledge)	
SPECIALTY 122 Computer se	<u>cience</u>		
(000	de and name of the	specialty)	

Approved at the meeting of the Academic Council of SHEI USUCT on "__"____ 2018 protocol no.____

Dnipro 2018

Approval sheet

FOR EDUCATIONAL AND PROFESSIONAL PROGRAM

FOR EDUCATIONAL AND I	PROFESSIONAL PROGRAM
Higher education level	Master
Branch of knowledge	12 Information technology
Specialty	122 Computer science
Educational program	Computer science
«APPROVED»	«DEVELOPERS»
First Vice-Rector, Chairman of the Academic Council of SHEI USUCT	Project team leader
Goleus V.I. (signature) (surname and initials) "" 2018	Zelentsov D. G. (signature) (surname and initials) " 2018
Head of the SEC	Member of the project team
(signature) Smotraiev R.V. (surname and initials)	(signature) Olevskii V.I. (surname and initials)
""2018	""2018
Educational and Methodical Department	Member of the project team
(signature) Fomenko G.V. (surname and initials)	(signature) Korotkaia L.I. (surname and initials)
""2018	
Dean of the Faculty of Computer Science and Engineering	
(signature) Levchuk I.L. (surname and initials)	
""2018	
Head of Department	Educational and professional program is carried into effort by the order of the rector no from ""2018.
(signature) Zelentsov D.G. (surname and initials)	
(signature) (surname and initials)	
/1110	

I. THE PROFILE OF THE MASTER EDUCATIONAL AND PROFESSIONAL PROGRAM

on a specialty 122 "Computer science"

The		of the program (general information)						
Full name of qualifica	_	Ступінь вищої освіти – магістр, спеціальність -						
in original language		Комп'ютерні науки						
Official name of the		Educational and professional program "Computer						
educational program		science" for master's degree in specialty						
I a g		122 Computer science						
The type of degree an	ıd	Master's degree in computer science, single (double,						
size of educational		joint in the presence of relevant agreements and training						
program		programs); 90 ECTS credits						
Full name of a higher	,							
education institution		State higher education institution "Ukrainian state						
granting the qualifica	tion	University of Chemical Technology"						
The accrediting		Accreditation Commission of Ukraine (SEI						
organization		"Educational and methodical center for the quality of						
9		education"). NAQAHE.						
Accreditation period		The validity period of the certificate after initial						
P		accreditation is 5 years, after re-accreditation it is 10						
		years.						
Cycle / level		NFQ of Ukraine – level 7, FQ-EHEA – second cycle,						
		EQF-LLL – level 7						
Prerequisites		First (bachelor) level						
Language(s) of instru	ction	Ukrainian language						
3 C × /	<u>'</u>							
A		The purpose of the educational program						
The purpose of the	To pro	ovide students with knowledge, skills and understanding						
educational	in con	nputer science that will enable them to perform original						
program	researc	ch or work independently in the workplace.						
В		Characteristics of the educational program						
Subject area	Denne	h of knowledge 12. Information took along						
(branch of		ch of knowledge 12 – Information technology						
knowledge,	specia	lty 122 –Computer science						
specialty)								
Main focus of the	General higher education in the field of information							
program and	techno	ology. In-depth theoretical and practical knowledge in the						
specialization	field o	of computer science and information technology with an						
	empha	asis on the formation of skills to create and implement						
	innova	ations in the field of information technology for various						

	sectors of human activity.
Program orientation	The research line is scientifically oriented, the teaching and
8	application line is practically oriented.
Features and	Regular updates to take trends in progressive development
differences	of information technologies into account
C	Employability and possibilities for further training
Employability	Jobs in enterprises and organizations that use information
	technology; teachers in educational institutions of different
	levels of education, scientists in research organizations,
	research centers.
Further training	Training at the third educational level on doctoral programs in
	the field of information technology.
D	Teaching style and training methods
Approaches to	A combination of lectures, practical and seminar classes,
teaching and	laboratory classes in computer rooms, writing course projects
training	or works, self-study, preparation of qualification work.
Evaluation methods	Written and oral examinations, tests, presentations, defense of
	master's qualification work.
Б	Duagram agmatancias
E Integral competence	Program competencies Mester's degree (level 7): the chility to solve complex tooks
Integral competence	Master's degree (level 7): the ability to solve complex tasks
	Master's degree (level 7): the ability to solve complex tasks and problems in the particular field of professional activity or
Integral competence	Master's degree (level 7): the ability to solve complex tasks and problems in the particular field of professional activity or in the learning process, which involves research and/or
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Integral competence (INT)	Master's degree (level 7): the ability to solve complex tasks and problems in the particular field of professional activity or in the learning process, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements.
Integral competence (INT) General competences	Master's degree (level 7): the ability to solve complex tasks and problems in the particular field of professional activity or in the learning process, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements. GC-1. Ability to abstract thinking, analysis and synthesis.
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Integral competence (INT) General competences	Master's degree (level 7): the ability to solve complex tasks and problems in the particular field of professional activity or in the learning process, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements. GC-1. Ability to abstract thinking, analysis and synthesis. GC-2. Ability to apply knowledge in practical situations. GC-3. Ability to plan and manage time. GC-4. Knowledge and understanding of the subject area and understanding of the profession. GC-5. Skills in the use of information and communication technologies. GC-6. Ability to conduct research at the appropriate level. GC-7. Ability to search for, process and analyse information from a variety of sources. GC-8. Ability to identify, formulate and solve problems.

- GC-11. Value and respect for diversity and multiculturalism.
- *GC-12*. Commitment to safety.
- GC-13. Ability to evaluate and ensure the quality of performed work.
- GC-14. Certainty and perseverance with regard to the undertaken tasks and responsibilities.
- *GC-15*. Desire to preserve the environment.

Special (professional) competences (SC)

- *SC-1*. Ability to apply knowledge and understanding of mathematical methods to solve and analyze problems in various fields.
- *SC-2*. Ability to recognize and analyze new problems and develop a strategic plan to address them.
- *SC-3*. Ability to use knowledge and skills in disciplines of the general cycle of training for the theoretical mastery in disciplines of professional direction and solution of practical problems.
- *SC-4*. Competence in planning, design and execution of research activities, from the stage of recognition of a problem to the evaluation of results and formulation of conclusions; this includes the ability to choose methods and procedures of an appropriate level.
- *SC-5*. Ability to assess risks associated with design and development of decision-making systems and expert systems.
- *SC-6*. Ability to interpret data obtained as a result of software product implementation.
- *SC-7.* Computational skills, including such aspects as the error analysis, the order of credibility of an assessment, as well as the correct use of mathematical models and check them for adequacy.
- *SC*-8. Knowledge and use of modern programming languages in the creation of information subsystems.
- *SC-9.* Skills of presentation of scientific materials and arguments in written and oral form to a competent audience.
- *SC-10*. Ability for business communications in the professional sphere, knowledge of the basics of business communication, team work skills.
- *SC-11*. Skills of application of the acquired knowledge in professional activity at development, adjustment and operation of information subsystems and technologies.
- *SC-12*. Knowledge of legal bases of the legislation of Ukraine in the field of information technologies.
- *SC-13.* Ability to use technologies of information systems development (collective) in practice.

F	Program learning outcomes
Learning outcomes in cognitive sphere	OCS-1. To choose and apply knowledge of mathematical methods to solve and analyze problems in various fields. OCS-2. To classify and analyse problems of different nature
	and draw up a strategic plan to address them. OCS-3. To use knowledge and skills in disciplines of the general cycle of training for the theoretical mastery in
	disciplines of professional direction and solution of practical problems.
	OCS-4. To assess risks associated with design and development of decision-making systems and expert systems. OCS-5. To summarize data obtained as a result of software
	product implementation. OCS-6. To establish the connection of obtained data with results of mathematical modeling.
	OCS-7. To develop safety measures in the workplace with their subsequent implementation.
	OCS-8. To investigate the influence of various factors on the properties of an object of study or design.
	OCS-9. To use modern programming languages to create information subsystems.
	OCS-10. To make generalizing conclusions on results of a
	study of properties of an object of study or design.
Learning outcomes	OVMS-1. To meet the requirements of professional ethics in
in the value and	the workplace.
motivational sphere	OVMS-2. To participate in a discussion of results of various
	work types (experimental, search, design, etc.).
	OVMS-3. To express a desire to work independently. OVMS-4. To ask questions in discussions with colleagues,
	teachers.
	OVMS-5. To demonstrate acquired professional skills in the
	creation of scientific and design documentation.
	OVMS-6. To organize safety activities in the workplace.
	OVMS-7. To collaborate with colleagues in related fields to
T .	achieve research or project objectives.
Learning outcomes	OPS-1. To analyze scientific and technical information, to
in the psychomotor sphere	study domestic and foreign experience on a subject of research
spiicic	OPS-2. To assess a degree of completeness, adequacy,
	truthfulness and feasibility of models of real systems.
	OPS-3. To develop technical documentation in accordance

with the requirements of ESCD.
<i>OPS-4</i> . To carry out safety regulations, standards of industrial
sanitation, fire safety and labor protection in practice.

II. THE DEFINITION OF EDUCATIONAL DISCIPLINES/MODULES

ensuring the achievement of the planned learning outcomes and forms of certification of applicants for higher education in the educational program in accordance with the standard of higher education

Table 1. Distribution of the content of the educational and professional program by training cycles and a form of final control

I. MANDATORY PART I.1 Cycle of general training (forms general competences)	ATORY PART (forms general competences) 2.0 60 2 gass/fail 4.0 120 2 3.4 graded test 2.0 60 1 2 pass/fail 1.5 45 1 1 graded test 3.0 90 2 3.4 pass/fail 12.5 375 Tems special (professional) competences)
1.1	2.0 60 2 3 pass/fail
1.1.1 Psychology and methods of teaching professional disciplines in higher education 2.0 60 2 3 pass	2.0 60 2 3 pass/fail 4.0 120 2 3.4 graded test 2.0 60 1 2 pass/fail 1.5 45 1 1 graded test 3.0 90 2 3.4 pass/fail 12.5 375 375 rms special (professional) competences)
1.1.1 Psychology and methods of teaching professional disciplines in higher education 2.0 60 2 3 pass 1.1.2 Foreign language (for professional purposes) 4.0 120 2 3.4 grade 1.1.3 Intellectual property 2.0 60 1 2 pass 1.1.4 Civil protection 1.5 45 1 1 grade 1.1.5 Physical culture (outside of the credits)	2.0 60 2 3 pass/fail 4.0 120 2 3.4 graded test 2.0 60 1 2 pass/fail 1.5 45 1 1 graded test 3.0 90 2 3.4 pass/fail 12.5 375 375 rms special (professional) competences)
1.1.3 Intellectual property 2.0 60 1 2 pass	2.0 60 1 2 pass/fail 1.5 45 1 1 graded test
1.1.4 Civil protection	1.5 45 1 1 graded test 3.0 90 2 3.4 pass/fail 12.5 375 special (professional) competences)
1.1.5	3.0 90 2 3.4 pass/fail 12.5 375 rms special (professional) competences)
1.1.6 Methodology and organization of scientific research 3.0 90 2 3.4 pass	12.5 375 rms special (professional) competences)
1.1.6 Methodology and organization of scientific research 3.0 90 2 3.4 pass	12.5 375 rms special (professional) competences)
1.2.1 Expert systems 6.0 180 2 3, 4 exa 1.2.2 Occupational health and safety 2.0 60 2 4 exa 1.2.3 Research practice 6.0 180 3 5 grade 1.2.4 Assistant practice 4.5 135 3 5 grade 1.2.5 Preparation of qualification master's work and state certification 1.2.6 Total in cycle 1.2 44.0 1320	rms special (professional) competences)
1.2.1 Expert systems	
1.2.1 Expert systems	
1.2.3 Research practice 6.0 180 3 5 grade	6.0 180 2 3,4 exam.
1.2.3 Research practice 6.0 180 3 5 grade	
1.2.5 Preparation of qualification master's work and state certification	6.0 180 3 5 graded test
Total in cycle 1.2	4.5 135 3 5 graded test
THE MANDATORY PART - TOTAL 56.5 1695	25.5 765 3 5,6 SC
2.1 Cycle of general training (forms general competences)	44.0 1320
Cycle of general training (forms general competences) 2.1.1. Modeling and optimization of technological processes 10.0 300 1, 2 1, 2, 3, 4 pass example 2.1.2 Game theory 5.0 150 1 1, 2 example 2.1.2 Cycle of professional training (forms special (professional) competences)	56.5 1695
2.1.1. Modeling and optimization of technological processes 2.1.2 Game theory 5.0 150 1 1, 2 examples and optimization of technological processes Total in cycle 2.1 15.0 450.0 2.2 Cycle of professional training (forms special (professional) competences) 2.2.1 Information technologies in the market infrastructure Module 1 2.2.2 Management and support of solutions in complex systems 6.0 180 1 1, 2 examples and pass of the market infrastructure Module 2 Quantum information and computation 6.0 180 1 1, 2, 3, 4 pass examples are pass of the market infrastructure of the market infrast	CTIVE PART
2.1.1. Modeling and optimization of technological processes 10.0 300 1,2 1,2,3,4 example 2.1.2 Game theory 5.0 150 1 1,2 example 2.2.2 Cycle of professional training (forms special (professional) competences)	(forms general competences)
Total in cycle 2.1 15.0 450.0 2.2 Cycle of professional training (forms special (professional) competences) 2.2.1 Information technologies in the market infrastructure Module1 2.2.2 Management and support of solutions in complex systems 6.0 180 1 1, 2 examples 2.2.3 Computational intelligence 7.5 225 1, 2 1, 2, 3, 4 pass examples 2.2.3 Quantum information and computation 6.0 180 1 1, 2 examples 2.2.3	10.0 300 1, 2 1, 2, 3, 4 pass/fail, exam.
2.2.1 Information technologies in the market infrastructure Module1 2.2.2 Management and support of solutions in complex systems Computational intelligence Module 2 Quantum information and computation Cycle of professional training (forms special (professional) competences) 5.0 150 1 1,2 pass 6.0 180 1 1,2 examples and support of solutions in complex systems 7.5 225 1,2 1,2,3,4 pass examples and support of solutions in computation Quantum information and computation 6.0 180 1 1,2 examples and support of solutions in computation 7.5 225 1,2 1,2,3,4 pass examples and support of solutions in computation 1.0 180 1 1,2 examples and support of solutions in computation 1.1 2 examples and support of solutions in computation 1.2 2.2.3 computational intelligence 1.3 2.2.5 1,2 1,2,3,4 pass examples and support of solutions in computation 2.2.3 computational intelligence 1.4 2.2 2.2 1,2,3,4 pass examples and support of solutions in computation 2.2.4 2.2 2.2 1,2,3,4 pass examples and support of solutions in computation 2.2.5 2.2 1,2 1,2,3,4 pass examples and support of solutions in computation 2.2.6 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.	5.0 150 1 1,2 exam.
2.2.1 Information technologies in the market infrastructure 5.0 150 1 1,2 pass	15.0 450.0
2.2.1 Information technologies in the market infrastructure 5.0 150 1 1,2 pass	ms special (professional) competences)
2.2.2 Management and support of solutions in complex systems 6.0 180 1 1, 2 example 2 Computational intelligence 7.5 225 1, 2 1, 2, 3, 4 pass example 2 Quantum information and computation 6.0 180 1 1, 2 example 2	
2.2.2 complex systems 6.0 180 1 1, 2 example	
Computational intelligence Module 2 Quantum information and computation 7.5 225 1, 2 1, 2, 3, 4 example 2 Quantum information and computation 6.0 180 1 1, 2 example 2 example 3 example 4 example 4 example 4 example 5 example 6 example 6 180 1, 2 1, 2 1, 3 1, 4 1, 2 1, 3 1, 4 1, 2 1, 3 1, 4 1, 2 1, 3 1, 4 1, 2 1, 3 1, 4 1, 2 1, 3 1, 4 1, 2 1, 3 1, 4 1, 3 1, 4 1, 3 1, 4 1, 4 1, 5 1, 6 1, 7 1	6.0 180 1 1, 2 exam.
Quantum information and computation 6.0 180 1 1, 2 exa	7.5 225 1, 2 1, 2, 3, 4 pass/fail, exam.
	6.0 180 1 1, 2 exam.
1	7.5 225 1, 2 1, 2, 3, 4 pass/fail, exam.
Total in cycle 2.2 18.5 555.0	18.5 555.0
	33.5 1005
THE SELECTIVE PART - TOTAL 33.5 1005	90 2700

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

		Academic load of the applicant for higher education (credits / %)							
No.	Training cycle	Mandatory components of the educational and	Selective components of the educational and professional	Total for the entire period of study					
		professional program	program						
1.	Cycle of general training (forms	12,5 / 13,89	15,0 / 16,67	27,5 / 30,56					
	general competences)								
2.	Cycle of professional training								
	(forms special (professional)	44,0 / 48,89	18,5 / 20,55	62,5 / 69,44					
	competences)								
To	tal for the entire period of study	56,5 / 62,78	33,5 / 37,22	90,0 / 100					

Table 3. The list of disciplines of the educational and professional program for training of applicants for education of the second (master) level, educational time in credits of ECTS by training cycles, and the list of the created competences and learning outcomes

Training cycles	Codes of competences	Codes of learning outcome	List of disciplines	ECTS credits
1	2	3	4	5
1.1. Cycle of general	GC-1, GC-4, GC-8, GC-10, GC-11, SC- 10, SC-13	OCS-3, OVMS-1, OVMS-2, OVMS-3, OVMS-4, OVMS-7, OPS-1	1.1.1. Psychology and methods of teaching professional disciplines in higher education	2.0
training (forms general	GC-1, GC-4, GC-11, SC-10	OCS-3, OVMS-1, OVMS-3, OVMS-4, OVMS-5, OPS-1	1.1.2. Foreign language (for professional purposes)	4.0
competences)	GC-1, GC-4, GC-8, SC-10, SC-12	OCS-3, OVMS-1, OVMS-2, OVMS-3, OVMS-4, OVMS-5, OVMS-7, OPS-1	1.1.3. Intellectual property	2.0
	GC-1, GC-4, GC-8, GC-12, GC-15	OCS-3, OCS-7, OCS-8, OVMS-1, OVMS-1, OVMS-3, OVMS-6, OPS-1, OPS-4	1.1.4. Civil protection	1.5
			1.1.5. Physical culture (outside of the credits)	
	GC-1, GC-2, GC-4, GC-5, GC-6, SC-2, SC-10	OCS-3, OCS-8, OVMS-1, OVMS-2, OVMS-3, OVMS-5, OVMS-7, OPS-1	1.1.6. Methodology and organization of scientific research	3.0
	GC-1, GC-2, GC-4, GC-5, GC-8, SC-1, SC-2	OCS-3, OCS-5, OCS-6, OCS-8, OCS-9, OCS-10, OVMS-1, OVMS-3, OVMS-7, OPS-1, OPS-2	2.1.1. Modeling and optimization of technological processes	10.0
	GC-1, GC-4, GC-5, GC-8, GC-9, SC-2	OCS-2, OCS-3, OCS-5, OCS-8, OCS-9, OCS-10, OVMS-1, OVMS-3, OVMS-7, OPS-1	2.1.2. Game theory	5.0
			TOTAL 1.1	27.5

Training cycles	Codes of competences	Codes of learning outcome	List of disciplines	ECTS credits
1	2	3	4	5
1.2 Cycle of professional training (forms special	GC-1, GC-2, GC-3, GC-4, GC-5, GC-7, GC-8, GC-9, GC-10, SC-1, SC-2, SC-3, SC-5, SC-6, SC-11	OCS-2, OCS-4, OCS-5, OCS-8, OCS-9, OCS-10, OVMS-1, OVMS-3, OVMS-5, OVMS-7, OPS-1, OPS-3	1.2.1. Expert systems	6.0
(professional) competences)	GC-1, GC-2, GC-4, GC-5, GC-8, GC-12, GC-15, SC-3	OCS-7, OCS-8, OVMS-1, OVMS-3, OVMS-6, OVMS-7, OPS-1, OPS-4	1.2.2. Occupational health and safety	2.0
	GC-1, GC-3, GC-4, GC-5, GC-6, GC-7, GC-8, SC-3, SC-4	OCS-2, OCS-5, OCS-6, OCS-9, OCS-10, OVMS-1, OVMS-2, OVMS-3, OVMS-4, OVMS-5, OVMS-7, OPS-1, OPS-2, OPS-3	1.2.3. Research practice	6.0
	GC-1, GC-4, GC-5, GC-8, GC-9, SC-3, SC-4, SC-9, SC-10	OVMS-1, OVMS-2, OVMS-3, OVMS-4, OVMS-5, OPS-1, OPS-3	1.2.4. Assistant practice	4.5
	GC-1, GC-2, GC-3, GC-4, GC-5, GC-6, GC-7, GC-8, GC-9, GC-13, GC-14, GC- 15, SC-2, SC-3, SC-7, SC-9, SC-11, SC-12, SC-13	OCS-1, OCS-2, OCS-5, OCS-6, OCS-7, OCS-8, OCS-9, OCS- 10, OVMS-1, OVMS-2, OVMS- 3, OVMS-5, OVMS-6, OVMS- 7, OPS-1, OPS-2, OPS-3, OPS- 4	1.2.5. Preparation of qualification master's work and state certification	25.5
	GC-1, GC-2, GC-4, GC-5, GC-8, SC-2, SC-3, SC-8	OCS-2, OCS-5, OCS-8, OCS-9, OCS-10, OVMS-1, OVMS-3, OVMS-7, OPS-1	2.2.1. Information technologies in the market infrastructure	5.0

Training cycles	Codes of competences	Codes of learning outcome	List of disciplines	ECTS credits
1	2	3	4	5
			Module1	
	GC-1, GC-2, GC-3,	OCS-2, OCS-4, OCS-5, OCS-8,	2.2.2. Management and support of	
	GC-4, GC-5, GC-7,	OCS-9, OCS-10, OVMS-1,	solutions in complex systems	6.0
	GC-8, GC-9, SC-2,	OVMS-3, OVMS-7, OPS-1		0.0
	SC-3, SC-5			
	GC-1, GC-2, GC-4,	OCS-1, OCS-5, OCS-6, OCS-9,	2.2.3. Computational intelligence	
	GC-5, GC-7, GC-8,	OVMS-1, OVMS-3, OVMS-7,		7.5
	SC-1, SC-3, SC-6,	OPS-1, OPS-2		1.3
	SC-8, SC-13			
			Module 2	
	GC-1, GC-2, GC-3,	OCS-1, OCS-2, OCS-5, OCS-6,	Quantum information and	
	GC-4, GC-5, GC-6,	OCS-8, OCS-9, OCS-10,	computation	6.0
	GC-8, GC-9, SC-1,	OVMS-1, OVMS-3, OVMS-7,		0.0
	SC-2, SC-3, SC-7	OPS-1, OPS-2		
	GC-1, GC-2, GC-4,	OCS-1, OCS-5, OPS-6, OCS-8,	Data integration methods and	
	GC-5, GC-7, GC-8,	OCS-9, OVMS-1, OVMS-3,	tools	7.5
	SC-1, SC-2, SC-3	OVMS-7, OPS-1		
			TOTAL 1.2	62.5
			TOTAL	90.0

Table 4. Matrix of compliance between software competences and training components

Code of discipline according to the curriculum	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	2.1.1	2.1.2	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5	2.2.1	, , ,	Module 1	,	Module 2
Code o	1,	1.	1.	1.	1.	1.	2.	2.	1,	1,	1.	1.	1.	2.	2.2.2	2.2.3	2.2.2	2.2.3
INT																		
GC-1	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
GC-2						+	+		+	+			+	+	+	+	+	+
GC-3									+		+		+		+		+	
GC-4	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
GC-5						+	+	+	+	+	+	+	+	+	+	+	+	+
GC-6						+					+		+				+	
GC-7									+		+		+		+	+		+
GC-8	+		+	+			+	+	+	+	+	+	+	+	+	+	+	+
GC-9								+	+	+		+	+		+		+	
GC-10	+								+									
GC-11	+	+																
GC-12				+				_		+	_				_		_	
GC-13													+					
GC-14													+					
GC-15				+						+			+					

SC-1						+		+							+	+	+
SC-2					+	+	+	+				+	+	+		+	+
SC-3								+	+	+	+	+	+	+	+	+	+
SC-4										+	+						
SC-5								+						+			
SC-6								+							+		
SC-7												+				+	
SC-8													+		+		
SC-9											+	+					
SC-10	+	+	+		+						+						
SC-11								+				+					
SC-12			+									+					
SC-13	+											+			+		

Table 5. Matrix of provision of appropriate components for program learning outcomes
Of educational and professional program

Code of discipline according to the curriculum	1.1	1.2	1.3	1.1.4	1.1.5	1.1.6	1.1	2.1.2	2.1	1.2.2	1.2.3	1.2.4	5:3	.5	55	2.1	,	Module 1		Module 2
Code of according to	1.1.1	1.1.2	1.1.3	1.1	1.1	1.1	2.1.1	2.1	1.2.1	1.2	1.2	1.2	1.2.5	2.2.1	2.2.2	2.2.3	2.2.2	2.2.3		
OCS-1.													+			+	+	+		
OCS-2.								+	+		+		+	+	+		+			
OCS-3.	+	+	+	+		+	+	+												
OCS-4.									+						+					
OCS-5.							+	+	+		+		+	+	+	+	+	+		
OCS-6.							+				+		+			+	+	+		
OCS-7.				+						+			+							
OCS-8.				+		+	+	+	+	+			+	+	+		+	+		
OCS-9.							+	+	+		+		+	+	+	+	+	+		
OCS-10.							+	+	+		+		+	+	+		+			
OVMS-1.	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+		
OVMS-2.	+		+			+					+	+	+							
OVMS-3.	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+		
OVMS-4.	+	+	+							+	+	+								

OVMS-5.		+	+		+			+		+	+	+					
OVMS-6.				+					+			+					
OVMS-7.	+		+		+	+	+	+	+	+		+	+	+	+	+	+
OPS-1.	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+
OPS-2.						+				+		+		+	+	+	
OPS-3.								+		+	+	+					
OPS-4.				+					·			+					

III FORMS OF EVALUATION OF APPLICANTS FOR HIGHER EDUCATION

Forms of evaluation of applicants for higher education Requirements for final qualifying work (if available)	An obligatory form of the state certification is implementation and defence of qualifying diploma works. The system of competences and learning outcomes specified in sections IV and V shall be submitted for state certification. The main method for objective control of the degree of achievement of the final goals of education and professional training of masters is a technology of implementation and defence of qualifying diploma works, defined in the following documents: Regulations on EC, Guidelines for the implementation of qualifying diploma works. The requirements for the final qualifying work are set out in the Guidelines for the implementation of qualifying theses. A final qualifying work is accompanied by a review of the supervisor and review of the reviewer, who are responsible for checking the completeness of tasks, the
	quality of a work as a whole and its check for plagiarism.
Requirements for certification/unified state qualification exam(s)) (if available)	
Public defence (presentation) requirements (if available)	Requirements for public defence are formulated in the Regulations on EC and guidelines for the implementation of qualifying diploma works.

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

Determined in accordance with European standards and guidelines for quality assurance in higher education (ESG) and article 16 of the Law of Ukraine "On Higher Education"

Components of the	Definitions, references and related documents
system of internal	
quality assurance in	
higher education	
Principles and	- The Law of Ukraine "On Higher Education" of
procedures for	01.07.2014 No. 1556-VII;
ensuring the quality	- Temporary regulations on the organization of the
of education	educational process SHEI USUCT (Order of the
	rector of SHEI USUCT from 30.11.2015 No. 290);
	- Regulations on honous degrees of SHEI USUCT
	(Order of the rector of SHEI USUCT from
	25.02.2016 No. 55);
	- Regulations on the procedure of establishment and
	organization of the work of the Examination
	Committee in SHEI USUCT (Order of the rector
	from 01.04.2015, No. 68);
	- Regulations on the development, approval and
	revision of work programs for academic disciplines
	(Order of the rector of SHEI USUCT from 01.12.15
	No. 291)
Monitoring and	
periodic revision of	requirements, revision of educational programs, work
educational	curricula, work programs of academic disciplines. On
programs	approval of composition of the project teams for the
	development of educational programs (Order of the
	rector of SHEI USUCT from 10.03.2016 No. 74)
Annual evaluation of	
applicants for higher	control of learning process (Order of the rector from
education	17.03.2014 No. 78)
Annual evaluation of	
scientific-pedagogical	of pedagogical skills of scientific-pedagogical workers
and pedagogical	of the University (Order of the rector of SHEI USUCT
workers of higher	from 04.04.2016 No. 85), Order of application of rating
educational	system for evaluation of activity of scientific-
institution	pedagogical workers of SHEI USUCT (Order of the
	rector from 04.06.2010 No 209 with the changes to the
	order from 09.06.2011 No. 147), Order of application
	of rating system for evaluation of activities of

	departments and faculties SHEI USUCT (Order of the
	rector from 04.06.2010 No. 209).
	Regular publication of the results of such evaluations
	on the official website of the higher educational
	institution, on information stands and in any other way
Further training of	Further training of scientific-pedagogical workers is
scientific-	carried out according to the regulations, approved by
pedagogical,	the order of MESU from 24.01.2013, No. 48 and
pedagogical and	Regulation on further training and internship of
scientific workers	pedagogical and scientific-pedagogical workers of
	SHEI USUCT (Order of the rector of SHEI USUCT
	from 28.05.2016, No. 105)
Availability of	Educational-methodical, material-technical and
necessary resources	personnel support corresponds to license conditions
for the organization	(Resolution of CM from 30.12.2015 No. 1187) for
of the educational	educational activity. License series AE №636496.
process	Certificates in the fields of study and specialties.
Availability of	Temporary regulations on the organization of
information systems	educational process in SHEI USUCT (Order of the
for effective	rector of SHEI USUC from 30.11.2015 No. 290) is
management of the	supported by Information-analytical control system for
educational process	the educational process, that consists of subsystems:
	Applicant, Learning Process.
Publicity of	Information about educational programs, degrees of
information about	
educational	described on the official web-portal of the University
programs, degrees of	http://udhtu.com.ua
higher education and	
qualifications	
Prevention and	Checking the completeness of the tasks, the quality of
detection of academic	work in general and its check for plagiarism is carried
plagiarism	out by the teacher – the supervisor of the course or
	diploma work/project in the prescribed manner using
	the appropriate software.