# MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE KYIV NATIONAL UNIVERSITY OF TRADE AND ECONOMICS

# EDUCATIONAL AND PROFESSIONAL PROGRAM "SECURITY OF INFORMATION AND COMMUNICATION SYSTEMS IN ECONOMY" Of the first level of higher education in speciality 125 Cybersecurity

Subject area 12 Information Technology

**Qualifications: Bachelor's degree in Higher Education** 

speciality "Cyber Security"

Specialization "Security of Information and Communication

systems in economy"

### APPROVED BY THE SCIENTIFIC COUNCIL OF KNUTE

## Head of the Scientific Council

\_\_/A.A. Mazaraki /

(protocol №\_\_off\_\_\_2019)

The educational program is brought into action since\_\_\_\_\_2019

Rector\_\_\_\_/ A.A. Mazaraki/

(order №\_\_\_\_0ff\_\_\_\_\_2019

Kyiv 2019

## **LETTER OF APPROVAL**

## for the educational and professional program

work

Approved First Vice-Rector on scientific and pedagogical work

\_\_\_\_\_N.V.Prytulska \_\_\_\_\_\_2019 Vice-Rector on scientific and pedagogical

Approved

\_\_\_\_\_\_ S.L. Shapoval \_\_\_\_\_\_ 2019

Арргоved Начальник навчального відділу КНТЕУ Head of the educational department of KNUTE \_\_\_\_\_\_ K.V. Mostyka \_\_\_\_\_\_ 2019 Арргоved Начальник навчально-методичного відділу КНТЕУ Head of the teaching and methodical department of KNUTE \_\_\_\_\_\_\_T.V. Bozhko \_\_\_\_\_\_\_2019

Approved Head of the Department of Software Engineering and Cybersecurity \_\_\_\_\_\_O.V. Kryvoruchko \_\_\_\_\_\_2019 Арргоved Представник РСС Representative of the Council of student self-government

\_\_\_\_\_ M.Ye. Antonevych \_\_\_\_\_ 2019

Approved Deputy Director of Center for Certification Training LLC "PROCOM"

\_\_\_\_\_ I I.A. Stolyarchuk \_\_\_\_\_\_ 2019 Approved Head of the Department of Cyberpolicies The National Police of Ukraine, Candidate of Law Sciences \_\_\_\_\_\_\_S.V. Demedyuk \_\_\_\_\_\_2019

Approved

## PREFACE

Розроблено робочою у складі: Designed by the working group composed of:

- 1. Savchenko Tetyana Vitaliyivna Candidate of Technical Sciences, Associate Professor of the Department of Program Engineering and Cybersecurity (Head);
- 2. Kharchenko Oleksander Anatoliyovych Dean of the Faculty of Accounting, Audit and Information Systems, KNUTE, Candidate of Technical Sciences, associate professor;
- Kryvoruchko Olena Volodymyrivna Head of the Department of Program Engineering and Cybersecurity, KNUTE, Doctor of Technical Sciences, professor;
- 4. Tsenzura M.O. Candidate of Technical Sciences, Associate Professor of the Department of Program Engineering and Cybersecurity of KNUTE;
- 5. Shchetinina Olena Kostyantynivna Head of the Department of Higher and Applied Mathematics, KNUTE, Doctor of Physical and Mathematical Sciences, professor;
- 6. Shestak Yaroslav Ivanovych Director of Information and Computing Center - Main Center of Information Technologies of KNUTE;
- 7. Desyatko Alyona Mikolayivna Senior Lecturer of the Department of Program Engineering and Cybersecurity, KNUTE;
- 8. Stepashkina Kateryna Volodymyrivna specialist of the Department of Program Engineering and Cybersecurity of KNUTE;
- Chubayevsky Vitaliy Ivanovych Candidate of Political Sciences, Associate Professor of the Department of Program Engineering and Cyber Security of KNUTE, Deputy Head of the Department of Cyberpolice of the National Police of Ukraine;
- Tereykovskyi Ihor Anatoliyovych Doctor of Technical Sciences, Professor of the Department of System Programming and Specialized Computer Systems of the National Technical University of Ukraine "I. Sikorskyi Kyiv Polytechnic Institute";
- 11. Lakhno Valeriy Anatoliyovych Doctor of Technical Sciences, Professor, Head of the Department of Computer Systems and Networks of the National University of Life and Environmental Sciences of Ukraine.

Reviews of external stakeholders:

- 1. Demedyuk S.V. Head of the Department of Cyberpolice of the National Police of Ukraine, Candidate of Law Sciences, Kyiv;
- 2. Stolyarchuk Iryna Arkadiyivna Deputy Director of the Center for Certification Training LLC "Procom", Kyiv.

1 - General information				
Full name of the institution	Kyiv National University of Trade and Economics			
of higher education and	Faculty of Accounting, Audit and Information Systems			
structural subdivision	Department of Program Engineering and Cybersecurity			
Higher education degree	Higher education degree – Bachelor			
and the name of the	Speciality "Cyber Security"			
qualification in the	Specialization "Security of information and communication systems in			
language of the original	economy"			
The official name of the	"Security of information and communication systems in economy"			
educational program				
Type of diploma and	The first (Bachelor's), unitary			
volume of educational	240 ECTS credits			
program	Term of studies - 3 years 10 months			
Availability of	-			
Cvcle / Level	NOF of Ukraine - 7th level			
	FO for EHEA - first cycle			
	EOF for LLL - 6 level			
Prerequisites	Full secondary education, elementary level of higher education			
Language (s) of teaching	Ukrainian			
The duration of the	Until the next scheduled update			
educational program				
Internet address of the	https://knute.edu.ua			
permanent placing of the				
educational program				
	2 - The purpose of the educational program			
Formation of a modern sy information and communicat Formation of a person ca systemic) and professional co communication systems of an 3 Subject area (branch of	stem of professional knowledge and skills in the field of security of ion systems of the enterprise (organization). pable of successfully integrating, general (instrumental, interpersonal, ompetencies into IT technologies to ensure the security of information and n enterprise - Characteristics of the educational program Branch of Knowledge 12 "Information Technologies"			
Subject area (Dranch of	Specialty 125 "Cyber Security"			
<b>knowledge, specialty,</b> Specialty 125 Cyber Security				
specialization (II ally))	economy"			

1. Profile of the educational program in the specialty 125 "Cyber Security" (for the speciality "Security of information and communication systems in the economy")

3 - Characteristics of the educational program					
Subject area (branch of	Branch of Knowledge 12 "Information Technologies"				
knowledge, specialty,	Specialty 125 "Cyber Security"				
specialization (if any))	Specialization "Security of information and communication systems in the				
	economy"				
	Discipline of the cycle - mandatory components 65,6%: general training -				
	35%; vocational training - 30,6%;				
	selective components 25.6%: general training - 10.6%; vocational training				
	- 15%;				
	practical training and certification - 8.8%.				

Orientation of the educational program	The program focuses on the educational, professional and applied area of training.				
The main focus of the educational program and specialization	Educational and professional. Higher education in specialty 125 "Cyber security" in the field of information technologies. The ability to organize and maintain a set of measures to ensure the security of information systems and networks of the enterprise (organization), taking into account their legal and economic feasibility, technical implementation, prevention of possible external influences, probable threats and application of information security technologies. Key words: security of information and telecommunication systems; cryptographic methods of information security; the theory of numbers;				
Peculiarities of the	Integration of software and hardware for detecting, monitoring and				
program	providing IT, information technology for information security in enterprise information and communication systems, technologies for data storage in a single information space and the introduction of anti- cybercrime functions.				
4 - Suitabil	ity of graduates for employment and further education				
Suitability for employment For further training	A specialist may hold primary positions (according to DK 003: 2010): 3439 (24771). Specialist in information security. International Standard Classification of Occupations 2008 (ISCO-08): 2529 Security Specialist (ICT). A specialist may hold the following positions: - manager (manager) of information security systems (1495); - assistant to the head of another main unit; - specialist (sphere of information protection); - specialist in the organization of information security (3439); - specialist in the secrecy regime; - inspector of the organization of secret information protection; - analyst of cybersecurity systems; - specialist in organization and testing penetration.				
	Ukraine, the second cycle of FQ-EHEA and level 7 of the EQF-LLL.				
Tooching and loaming	Student centered training solf study, training through laboratory				
	practice. problematic, interactive, project, informational and computer, self-developing, collective and integrative, contextual teaching technologies.				
Evaluation	<ul> <li>Types of control:</li> <li>by levels: self-control, control at the level of the teacher, control at the level of the head of the department, control at the dean's level, control at the level of director, certification;</li> <li>Forms of control: oral and written surveys, testing, presentation of scientific work, defense of term papers.</li> <li>Current control, final control - exams and credits, defense of a graduation qualification project.</li> </ul>				

6 - Program competencies				
Integral	The ability to solve complex specialized tasks and practical problems in			
competence	the field of providing information security, characterized by complexity			
-	and incomplete certainty of conditions.			
General	GC 1. The ability to do analysis and synthesis on the basis of logical			
competence (GC)	arguments and verified facts			
_	GC 2. The acquisition of flexible thinking, openness to the application of			
	knowledge in information technologies and competencies in a wide range			
	of possible workplaces and everyday life.			
	GC 3. The ability to conduct laboratory research in a group led by a			
	leader, similar skills that demonstrate the ability to take into account strict			
	discipline requirements, planning and time management.			
	GC 4. The ability to communicate effectively and to present complex			
	comprehensive information in a concise form, orally and in writing, using			
	information and communication technologies and related technical terms.			
	GC 5. The ability to communicate with non-specialists, have certain			
	teaching skills and be able to make grounded decisions.			
	GC 6. Здатність оцінювати та забезпечувати якість виконуваних			
	робіт та вміти адаптуватись в новій ситуації. Ability to evaluate and			
	ensure the quality of the work performed and be able to adapt to the new			
	situation			
	GC 7. The ability to search, process and analyze information from various			
	sources.			
	GC 8. The ability to identify, set and solve problems.			
	GC 9. The ability to provide assistance and advice to employees and the			
	general public on practical issues of safety of life and protection in			
	emergency situtions			
Professional competence of	<b>PC 1.</b> The ability to use the legislative and regulatory framework of the			
the speciality (PC)	state, as well as the requirements of international standards for the conduct			
	of professional activities.			
	<b>PC 2.</b> The ability to use information and communication technologies in			
	order to find new information, create databases, analyze distributed			
	information systems and communication channels on the basis of analysis			
	of information nows and their optimization. <b>PC 3</b> The ability to monitor and forecast data, computer abuses and			
	and anomalies			
	$\mathbf{PC} \mathbf{A}$ The ability to counteract unauthorized penetration into information			
	systems and networks			
	<b>PC 5</b> The ability to restore the normal functioning of information and			
	telecommunication systems and networks after the implementation of			
	cyber attacks break-downs and failures			
	<b>PC 6.</b> The ability to form a complex of measures (rules procedures)			
	practical methods, etc.) for information security management			
	<b>PC 7.</b> The ability to carry out a feasibility study and to justify design			
	decisions to ensure cyber security.			
	<b>PC 8</b> . The ability to restore the normal functioning of IT systems and			
	networks after cyber attacks, crashes and failures.			
	PC 9. The ability to monitor data and detect computer abuses and			
	abnormalities.			
	PC 10. The ability to perform special studies of technical and software			

hardware protection of information processing in PC.
<b>PC 11.</b> The ability to restore the normal functioning of IT systems and
networks after cyber attacks, breakdowns and failures.
PC 12. The ability to resist unauthorized penetration into IT systems
and networks.
PC 13. The ability to manage incidents of informational and cyber
security.
<b>PC 14</b> . The ability to manage information and cyber security risks.
PC 15. The ability to design (develop) systems, technologies and means of
information security.
7 - Program outcomes of the training
<b>POT 1.</b> – To act on the basis of the legislative, regulatory and legal
framework of Ukraine and the requirements of the relevant standards,
including international ones.
<b>POT 2.</b> To carry out professional activity on the basis of knowledge of
modern information and communication technologies.
<b>POT 3</b> . To use specialized computer programs in professional activities.
<b>POT 4.</b> To apply program means, skills of work in telecommunication
and computer networks.
<b>POT 5.</b> To perform software analysis to find, search, identify, detect and
eliminate programming errors.
<b>POT 6.</b> To choose the appropriate programming technology perform a
task specification analysis
<b>POT 7.</b> To develop a model of threats to develop an offender model
<b>POT 8</b> To apply the theory and methods of security to ensure
information security in information and communication systems and
networks
<b>POT 0</b> To choose the basic methods and methods of information
<b>POT 9.</b> To choose the basic methods and methods of modern information
protection in accordance with the requirements of modern information
security standards regarding the criteria of information technology
security, using a systematic approach and knowledge of the fundamentals
or information security theory.
POT 10. To assess the security of IT systems and networks.
<b>POT 11.</b> Assess the possibility of penetration into the IT system and
network by exploiting existing vulnerabilities.
<b>POT 12.</b> To use instrumental means to assess existing vulnerabilities.
<b>POT 13.</b> To be able to assess the possibilities and efficiency of
application, in various conditions, of instrumental means for assessing
vulnerabilities of IT systems and networks.
POT 14. To be able to protect information systems from computer
viruses.
<b>POT 15.</b> To be able to ensure the implementation and enforcement of
cybercrime policy in ITS, procedures and rules.
POT 16. To be able to participate in the development and
implementation of information security and / or cyber security strategies
in accordance with the goals and objectives of the organization.
<u> </u>

	<ul> <li>POT 17. To be able to configure the intrusion detection systems and to use the security components to provide the necessary level of security for the ITS.</li> <li>POT 18. To be able to characterize the main forms of information confrontation in the conditions of the state's entry into the information society.</li> <li>POT 19. To be able to apply national and international regulatory information security acts to investigate internal and external information security incidents.</li> <li>POT 20. To be able to design and evaluate models and security policies based on the use of modern principles, ways and methods of theory.</li> <li>POT 21. To use theoretical and practical methods and methodologies of research in the field of information security.</li> <li>POT 22. The knowledge of methods for counteracting cyber attacks.</li> <li>POT 23. To know the basics of cryptology, cryptography and cryptographic analysis.</li> <li>POT 24. The knowledge of information theory and coding methods.</li> <li>POT 25. The knowledge of models, methods and means of construction and protection of wireless data transmission networks.</li> </ul>
8 - Reso	urce support for the implementation of the program
Personnel support	Project group: 4 candidates of sciences. All developers are full-time employees of Kyiv National University of Trade and Economics Scientific and pedagogical staff with academic degrees and /or academic titles, as well as highly skilled specialists, are involved in the program implementation. In order to increase the professional level, all scientific and pedagogical workers undergo an internship every five years.
Material and technical support	The use of laboratories, computer and specialized classrooms of KNUTE
Information and educational and methodical	The current MOODLE remote learning system and the MS Officce 365 environment provide independent and individual student work.
	9 - Academic mobility
National credit mobility	Organization of credit mobility of bachelors (except for the 1-st year students). The ERAM Systems Ukraine project, the state enterprise Ukrainian Institute of Intellectual Property, the Procom Center for Certified Training, the Pearson Edwin Education Company, Parus corporation, the BGS Solutions group of companies.

International Credit Mobility	Organization of credit mobility of bachelors (except for the 1-st yea students). The University of Paris Es Cretey project (Paris, France Business School Audencias (Nantes, France, Grenoble Alp University, Grenoble, France), University of Central Lancashin (Preston, UK), Hohenheim University (Stuttgart, Germany).	
Teaching foreign applicants for higher advestion	It has been foreseen.	

# 2. The list of components of the educational program and their logical consistency

2.1. List of the EP components

Code N / A	Components of the educational program (academic disciplines, course projects	Amount of credits	Form of the final control
	(works), practice, qualification work)		
1	2	3	4
	1. Compulsory components of	of the EP	
CC 1.	Linear algebra and analytic geometry	6	Exam
CC 2.	Foreign language for professional orientation	24	exam
CC 3.	Science of law	6	exam
CC 4.	Philosophy	6	exam
CC 5.	Mathematical analysis	6	exam
CC 6.	Computer discrete mathematics	6	exam
CC 7.	Safety of life	6	exam
CC 8.	Business economics	6	exam
CC 9.	Probability theory and mathematical statistics	6	exam
CC 10.	The theory of numbers	6	exam
CC 11.	Legal support of the state's information security	6	exam
	Physical Education		credit
CC 12.	Economic Informatics 12		exam
CC 13.	Object-Oriented Programming	12	exam
CC 13.1.	Course work on object-oriented programming		
CC 14.	Computer architecture	6	exam
CC 15.	Operating systems	6 exam	
CC 16.	Software architecture and designing     6     exam		
CC 17.	Security of information systems	6	exam

CC 17.1.	Course work on security of information		
	systems		
CC 19	Organization of computer networks	6	awa ma
CC 18.	Organization of computer networks	0	exam
CC 19.	Databases	6	exam
CC 20.	Cryptographic methods of information	6	exam
	protection		
CC 21.	Security of telecommunication networks	7,5	exam
Total value	a of commulations common on tax	157	5
1 otal volum	e of compulsory components: 2. Selective components of the	EP	,5
SC 1.1	Aesthetics	6	avam
SC 1.1.	Acsuches	0	CXam
SC 1.2.	History of economics and Economic thought	6	exam
SC 1.3.	History of Ukraine	6	exam
SC 1.4.	History of Ukrainian culture	6	exam
SC 1.5.	Cultural heritage of Ukraine	6	exam
SC 1.6.	National interests in the world geopolitics and geo-economics	6	exam
SC 1.7.	Elocution	6	exam
SC 1.8.	Religious studies	6	exam
SC 1.9.	World culture	6	exam
SC 1.10.	Ukrainian language (for professional orientattion)	6	exam
SC 2.1.	Diplomatic and business protocol and etiquette	6	exam
SC 2.2.	Business ethics	6	exam
SC 2.3.	Logic	6	exam
SC 2.4.	Politology	6	exam
SC 2.5.	Psychology	6	exam
SC 2.6.	Sociology	6	exam

SC 2.7.	Social leadership	6	exam	
SC 3.1.	Contract law	6	exam	
SC 3.2.	Information law	6	exam	
SC 4.1.	Engineering psychology and labor psychology	7,5	exam	
SC 4.2.	Psychology of safety	7,5	exam	
SC 5.1.	Electrical engineering	6	exam	
SC 5.2.	Engineering and computer graphics	6	exam	
SC 5.3.	Physics	6	exam	
SC 6.1.	Human and machine interaction	6	exam	
SC 6.2.	Java technology	6	exam	
SC 6.3.	WEB-design and WEB-programming	6	exam	
SC 7.1.	Security of operating systems	6	exam	
SC 7.2.	Expert systems	6	exam	
SC 7.3.	Artificial Intelligence	6	exam	
SC 8.1.	Security of database systems	6	exam	
SC 8.2.	Software security6ex		exam	
SC 8.3.	Economics and organization of information business	6	exam	
SC 9.1.	Methods and means of data transmission	6	exam	
SC 9.2.	Software project management	6	exam	
SC 10.1.	Modeling and analysis of software	6	exam	
SC 10.2.	Economic processes modeling	6	exam	
SC 10.3.	Management of Informatization Projects	6	exam	
The total ar	nount of selective components:	61,	5	
3. Practical training				

Internship 1	6	credit	
Internship 2	6	credit	
4. Attestation			
Preparation of the final qualification project, preparation for attestation and defence	9	Defence	
TOTAL VOLUME OF EDUCATIONAL PROGRAM	24	0	

# 2.2. Structural and logical scheme of the EP

1 year 1semester	1 year 2 semester	2 year 3semester	2 year 4 semester	3 year 5 semester	3 year 6 semester	4 year 7semester	4 year 8 semester
CC 1. Linear algebra and analytic	CC 2. Foreign language for	CC 2. Foreign language for professional	CC2. Foreign language for	CC 10. The theory of	CC 11. Legal support of the state's information	CC 20. Cryptographic methods of information protection	CC 21. Security of telecommunication networks
geometry	CC 11. Economic Informatics	orientation	CC 13. Object- Oriented Programming	CC 15. Operating Systems	security	SC 3.1. Contract	
CC 2. Foreign	CC 5. Mathematical analysis	CC 6. Computer			CC 18.		SC 4.1. Engineering psychology and
professional	SC 1.1. Aesthetics	mathematics	Object-Oriented	CC 16. Software	Organization of computer	SC 3.2. Information law	labor psychology
orientation	SC 1.2. History of Economics and Economic		CC & Business	architecture and designing	networks	SC 8.1. Security of	SC 4.2. Psychology
CC 3. Science of Law	SC 1.3. History of Ukraine	CC 7. Safety of Life	Economics		CC 19. Databases	C 8.2 Software	of safety
CC 4.	SC 1.4. History of Ukrainian Culture	CC 13. Object-	CC 9. Probability theory and mathematical statistics	CC 17. Security	SC 7.1. Security of operating systems	security	Internship 2
Phylosophy	SC 1.5. Cultural heritage of	Oriented Programming	SC 2.1. Diplomatic and	systems	ļ/	SC 8.3. Economics	Preparation of the
CC 12. Economic	Ukraine		business protocol and etiquette	CC 17.1 Course	SC 7.2. Expert systems	and organization of information business	final qualification project, preparation
Informatics	world geopolitics and geo- economics	CC 14.	SC 2.2. Business ethics	work on security of information	SC 7.3. Artificial	SC 9.1. Methods and	for attestation and defence
Physical Education	\	Computer Architecture	SC 2.3. Logic	systems	Intelligence	means of data transmission	
	SC 1.7. Elocution	Physical	SC 2.4. Politology	SC 6.1. Human and machine interaction	Internship1	SC 9.2. Software	111
	SC 1.8. Religious studies	Education	SC 2.5. Psychology	SC 6.2. Java			
	SC 1.9 World culture		SC 2.6. Sociology	Technology		SC 10.1. Economic	
	SC 1.10. Ukrainian for professional orientattion		SC 2.7. Social Leadership	SC 6.3. WEB-		processes modeling	
			Physical Education	design and WEB- programming		SC 10.2. Modeling	
	SC 5.1. Electrical engineering			L		and analysis of software	
	computer graphics						
	SC 5.3. Physics			-		SC 9.2. Management of	/
	Physical Education		15	)		Informatization	I

## 3. Form of attestation of applicants for higher education

The attestation of graduates of the educational program "Security of Information and Communication Systems" of speciality 125 "Cyber security" is carried out in the form of the defence of the graduation qualification project and ends with the issuance of the Document of a standard form on awarding him or her a bachelor's degree with the qualification: the degree of higher education – Bachelor, speciality "Cyber Security", specialization "Security of Information and Communication Systems in the economy".

The attestation is carried out openly and publicly.

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	CC 1	CC 2	CC 3	CC 4	cc 9 CC 9	CC 7	CC 8	CC 9	CC 10	CC 11	CC 12	CC 13	CC 13.1	CC 14	91.55	CC 17	CC 17.1	CC 18	CC 19	CC 20	SC 1.1	SC 1.2	SC 1.3	SC 1.4	SC 1.5	SC 1.6	SC 1.7	SC 1.8	SC 1.9	SC 1.10	SC 2.1	SC 2.2	SC 2.3	SC 2.4	SC 2.5	SC 2.7	SC 3.1	SC 3.2	SC 4.1	SC 4.2 SC 5.1	SC 5.2	SC 5.3	SC 6.1	SC 6.2	SC 6.3	SC 7.1	SC 7.2	SC 7.3	SC 8.1 SC 8.2	SC 8.3	SC 9.1	SC 9.2	SC 10.1	20102	SC 10.3
GC 1	+	+	+	+ +	+	+	+	+	+	+	+ +	+ +	÷			+	+	+	+	+ +	+									+ +	+ 4	+ +	+	+	+	+	+	+		+	+		+			+	+ +	+ +	+	+	+	+	+ +	+	+
GC 2	+	+	- +	+	+	+	+		+		+	+	+		+						+	+	+	+	+	+	+	+	+ ·	+ +	+ 4	+ +	+	+	+	+	+	+ +	+	+	+	+	+ -	+ ·	+ -	+						+	+ +	+	+
GC 3	+	÷			+	+	+	+			+	+	+		+	+	+ ·	+ +	+ +	· +										+	+ 4	+ +	+	+	+	+	+	+ +	+				-	+ ·	+ -	+ +	+ +	+ +	+	+	+	+	+ +	- +	+
GC 4											+	+				+	+	+ +	+ +	· +									+					1						+	+					+	+ +	+ +	+	+	+		+	+	
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PC 3				_					+	+	+	+	+	_	+			4	+ +	•											_	_	_	+	_	_		_	_	-				+ ·	+ -	+ +	+ +	- +	+		⊢┼	+	—	┿	
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## 4. Matrix of compliance of program competencies to the components of the educational program

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	CC 1	CC 2	CC 3	CC 4	CC 5	8 2 2	CC 8	CC 9	CC 10	CC 11	CC 12	CC 13	CC 13.1	CC 14	CC IS	21 J J	CC 17.1	CC 18	CC 19	CC 20	CC 21	SC 1.1	SC 1.2	SC 1.3	SC 1.4	SC 1.5	SC 1.6	SC 1.7	SC 1.8	SC 1.9	SC 2.1	SC 2.2	SC 2.3	SC 2.4	SC 2.5	SC 2.6	SC 2.7	SC 3.1	SC 4.1	SC 4.2	SC 5.1	SC 5.2	80.5.3	SC 62	sc 6.3	SC 7.1	SC 7.2	SC 7.3	SC 8.1	SC 8.3	SC 9.1	SC 9.2	SC 10.1	SC 10.2	SC 10.3
OT 1			+			+					+											+	+	+	+	+	+	+	+	+	+	+	+	+	+ +	+ +				+											$\square$				
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POT 3			+						+		+	+						+																			+	+	+				+	+				+ +		+	$\square$	+	+	+ ·	+
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POT 6			-	+	-		-	-			+	+	+	+	+	+	+	+	+																		-						+	+	+	+	+ /	+ +	+	+	+	$\rightarrow$		-	$\neg$
POT 7														+		+	+		+	+	+																						+	+			+	+	+	+	+		+	-	$\neg$
POT 8			+					+	+							+	+		+	+	+																										+		+	+	+				
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POT 24			+					+	+																																			$\perp$	$\square$	$\square$	$\square$	$\perp$			$\square$	$\square$	$\perp$	$\perp$	
POT 25								+	+							1				+	+																							1						1					

## 5. Matrix of providing program outcomes of training (POT) with the corresponding components of the program.