



## CURRICULUM CONTENT

Master's degree program:

by specialty

F5

Cybersecurity and information protection

Code according to EPP	Name of the educational component	Total number				Department code
		ECTS credits	Hours	Semesters		
		3	4	5	6	7
1	2					
<b>1</b>	<b>Mandatory educational components</b>	<b>58,0</b>	<b>1740,0</b>			<b>48%</b>
<b>1.1</b>	<b>General training</b>	<b>13,0</b>	<b>390,0</b>			<b>11%</b>
GT 1	Academic English	3,0	90,0	1		328
GT 2	Innovative entrepreneurship and startup project management	3,0	90,0	2		328
GT 3	AI-Based Security	3,0	90,0	2		328
GT 4	Безпека Інтернет речей та сервісів	4,0	120,0		1	328
<b>1.2</b>	<b>Special (professional) training</b>	<b>23,0</b>	<b>690,0</b>			<b>19%</b>
ST 1	Fundamentals of scientific research	5,0	150,0	1		328
ST 2	Critical Infrastructure Security	5,0	150,0		1	328
ST 3	Network and cloud security	5,0	150,0	1		328
ST 4	Protection of Distributed Services and Operating Platforms	4,0	120,0		1	328
ST 5	Digital forensics	4,0	120,0		1	328
<b>1.3</b>	<b>Practical training</b>	<b>11,0</b>	<b>330,0</b>			<b>9%</b>
PT 1	Pre-graduation internship*	11,0	330,0		3	328
<b>1.4</b>	<b>Preparation and defense of qualification work</b>	<b>11,0</b>	<b>330,0</b>			<b>9%</b>
<b>2</b>	<b>Optional educational components</b>	<b>32,0</b>	<b>960,0</b>			<b>27%</b>
<b>2.1</b>	<b>Educational components of free choice of professional training of the general institutional catalog</b>	24,0	720,0			<b>20,00%</b>
<b>2.2</b>	<b>Educational components of free choice of general training</b>	8,0	240,0			<b>6,67%</b>
ECGT 1	EC FC GT 1	4,0	120,0		3	
ECGT 2	EC FC GT 2	4,0	120,0		3	
<b>Total number for the training period</b>		<b>90,0</b>	<b>2700,0</b>			

<b>CURRICULUM №</b>	<b>KH-M1126i.e.</b>
Form of study and more	i.e.
Institute code	320
Short name of the institute	KH
Number of the educational program	11
Name of the educational program	Cybersecurity
Code of the field of knowledge	F
Industry name	Information technologies
Specialty code	F5
Name of the specialty	Cybersecurity and information protection
Level of higher education:	second (master's) level
Qualifications:	Master of Cybersecurity and information protection
Year (last 2 digits)	26
Responsible for information, phone number	Olha KOROL, 095-251-75-48

Form: plans of the Master educational and professional

1,4

**V. EDUCATION PROCESS PLAN**

KH-M1125i.e.

Code according to EPP	Name of discipline	Semester distribution			Number of ECTS credits	Number of hours						Distribution of classroom hours per a week and ECTS credits per a semester								Department		
		Exams	Tests	Individual tasks		Classroom			including			1 course		2 course		Semesters	Semesters	Semesters	Semesters			
						Total amount	Total	Lectures	Laboratory works	Practical studies	Independent work	Semesters		Semesters								
						6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>58,0</b>	<b>1740,0</b>	<b>432,0</b>	<b>224,0</b>	<b>128,0</b>	<b>80,0</b>	<b>1308,0</b>	<b>23,0</b>	<b>30,0</b>	<b>4,0</b>	<b>6,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>29</b>	
<b>1.1</b>	<b>Mandatory educational components</b>	<b>13,0</b>	<b>390,0</b>	<b>144,0</b>	<b>64,0</b>	<b>32,0</b>	<b>48,0</b>	<b>246,0</b>	<b>5,0</b>	<b>7,0</b>	<b>4,0</b>	<b>6,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>328</b>		
GT 1	General training	1			3,0	90,0	32,0			32,0	58,0			2,0	3,0						328	
GT 2	Innovative entrepreneurship and startup project management	2			3,0	90,0	32,0	16,0	16,0	58,0				2,0	3,0						328	
GT 3	AI-Based Security	2			3,0	90,0	32,0	16,0	16,0	58,0				2,0	3,0						328	
GT 4	Security of the Internet of Things and Services	1			4,0	120,0	48,0	32,0	16,0	72,0	3,0	4,0									328	
<b>1.2</b>	<b>Special (professional) training</b>	<b>23,0</b>	<b>690,0</b>	<b>288,0</b>	<b>160,0</b>	<b>96,0</b>	<b>32,0</b>	<b>402,0</b>	<b>18,0</b>	<b>23,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>328</b>		
ST 1	Fundamentals of scientific research	1			5,0	150,0	64,0	32,0		32,0	86,0	4,0	5								328	
ST 2	Critical Infrastructure Security	1			5,0	150,0	64,0	32,0	32,0		86,0	4,0	5								328	
ST 3	Network and cloud security	1			5,0	150,0	64,0	32,0	32,0		86,0	4,0	5								328	
ST 4	Protection of Distributed Services and Operating Platforms	1			4,0	120,0	48,0	32,0	16,0		72,0	3,0	4								328	
ST 5	Digital forensics	1			4,0	120,0	48,0	32,0	16,0		72,0	3,0	4								328	
<b>1.3</b>	<b>Practical training</b>	<b>11,0</b>	<b>330,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>330,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>11,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>328</b>		
PT 1	Pre-graduation internship*	3			11,0	330,0	0,0				330,0									11,0	<b>328</b>	
<b>1.4</b>	<b>Preparation and defense of qualification work</b>	<b>11,0</b>	<b>330,0</b>	<b>0,0</b>						330,0									<b>11,0</b>	<b>0,0</b>	<b>0,0</b>	
<b>2</b>	<b>Optional educational components</b>	<b>32,0</b>	<b>960,0</b>	<b>384,0</b>	<b>160,0</b>	<b>192,0</b>	<b>32,0</b>	<b>576,0</b>	<b>0,0</b>	<b>0,0</b>	<b>18,0</b>	<b>24,0</b>	<b>24,0</b>	<b>8,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>		
<b>2.1</b>	Educational components of free choice of professional training of the general institutional catalog				24,0	720,0	288,0	96,0	192,0	0,0	432,0	0,0	0,0	18,0	24,0	0,0	0,0	0,0	0,0	0,0	0,0	
ECPT 1	EC FC PT 1	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4,0						328	
ECPT 2	EC FC PT 2	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4,0						328	
ECPT 3	EC FC PT 3	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4,0						328	
ECPT 4	EC FC PT 4	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4,0						328	
ECPT 5	EC FC PT 5	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4,0						328	
ECPT 6	EC FC PT 6	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4,0						328	
<b>2.2</b>	Educational components of free choice of general training	<b>8,0</b>	<b>240,0</b>	<b>96,0</b>	<b>64,0</b>	<b>0,0</b>	<b>32,0</b>	<b>144,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>24,0</b>	<b>8,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>		
ECGT 1	EC FC GT 1	3	RE	4,0	120,0	48,0	32,0		16,0	72,0					12,0	4,0						
ECGT 2	EC FC GT 2	3	RE	4,0	120,0	48,0	32,0		16,0	72,0					12,0	4,0						
<b>Total number for the training period</b>		<b>90,0</b>	<b>2700,0</b>	<b>816,0</b>					<b>1884,0</b>	<b>23,0</b>	<b>30,0</b>	<b>22,0</b>	<b>30,0</b>	<b>24,0</b>	<b>30,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>		
Hours per week									23,0	22,0			24,0	0,0								
Number of exams									3	2			1									
Number of tests									4	6			3									
Number of course projects (works)																						
Numbers of disciplines per semester									7,0	8,0			4,0	0,0								

Individual tasks	
C	Calculated task
CG	Calculated and graphic task
PE	Report
CP	Course project
CW	Course work
SRW	Scientific research work

Approved by the Academic Council of NTU "KhPI"

PROTOCOL № \_\_\_\_ from \_\_\_\_ 2026

Vice-rector of Scientific-and-Pedagogical Work

Gennadiy KHRYPUNOV

signature

Olha KOROL

signature

Director of the Institute

Mykhailo GODLEVSKYI

name of the institute

Head of the Department

Institute's department name

Serhii YEVSEIEV

signature

## 1 - List of Educational components of free choice of professional training

№ nn	Name of academic discipline	Semester distribution			Number of ECTS credits	Number of hours					Distribution of classroom hours per a week and ECTS credits per a semester								Department								
		Exams	Tests	Individual tasks		Classroom			Independent work	1 course		2 course		Semesters	Semesters	1	2	3									
						Total amount	Total	including		Number of weeks in the semester		Number of weeks in the semester															
		Total amount	Total	Lectures		Laboratory works		Practical studies		Classroom hours	ECTS credits	Classroom hours	ECTS credits	Classroom hours	ECTS credits	Classroom hours	ECTS credits										
				20		20		16																			
		Classroom hours	ECTS credits	Classroom hours	ECTS credits	Classroom hours	ECTS credits	Classroom hours	ECTS credits																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	29							
4.1	<b>Educational components of free choice of professional training</b>																										
ECPT 1	Vulnerability Assessment and Information	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 2	Models and technologies for ensuring the	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 3	Server system security	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 4	Swarm Algorithms in Cybersecurity	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 5	Web application interface development	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 6	Spring Security for client-server application	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 7	SQL for backend developers	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 8	Machine Learning	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 9	Neural networks	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 10	Artificial intelligence and business analytics	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 11	Smart technology security	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 12	Comprehensive training course "Web application security"	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 13	Comprehensive training course "Blockchain: mathematical problems and applications"	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 14	Comprehensive training course "Cryptography and cryptanalysis"	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 15	Fundamentals of Distributed Artificial Intelligence for Cybersecurity	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 16	Security of Artificial Intelligence Systems	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 17	SASE and Network Perimeter Protection	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							
ECPT 18	Cyber incident management	2			4,0	120,0	48,0	16,0	32,0		72,0			3,0	4					328							

## 2 - List of Education components of free choice of general training

№ nm	Name of academic discipline	Semester distribution			Number of ECTS credits	Number of hours					Distribution of classroom hours per a week and ECTS credits per a semester								Department				
		Exams	Tests	Individual tasks		Total amount	Total	Classroom			Independent work	1 course		2 course		Semesters	Semesters	Semesters					
								including	Lectures	Laboratory works		1		2									
												Number of weeks in the semester		20		20		16					
												Classroo	ECTS	Classroo	ECTS	Classroo	ECTS	Classroo	ECTS				
												m hours	credits	m hours	credits	m hours	ECTS	m hours	ECTS				
												hours	credits	hours	credits	hours	ECTS	m hours	ECTS				
												hours	credits	hours	credits	hours	ECTS	m hours	ECTS				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	29			
4.2	<b>Educational components of free choice of general training</b>																						
	<b>Ukrainian studies educational components</b>																						
ECGT 1	Ethnolinguistic Processes in Ukraine		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		310			
ECGT 1	History of Culture of Sloboda Ukraine		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		310			
ECGT 1	History of Ukrainian Governmentality		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		310			
	<b>Discipline of psychological direction</b>																						
ECGT 2	Psychology of Leadership in Business		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		301			
ECGT 2	Psychology of Leadership in Education		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		301			
ECGT 2	Fundamentals of Professional Psychology		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		301			
	<b>Discipline of legal direction</b>																						
ECGT 3	Legal Regulation of Innovation Activities		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		306			
ECGT 3	Information Law		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		306			
ECGT 3	Copyright and Related Rights		3		4,0	120,0	48,0	32,0		16,0	72,0						12,0	4,0		306			