

2025-2026 (Spring, Autumn)

M095 - "IT Security"

7M06302 - "Comprehensive information security"

Master of engineering and technology

full time (professional track) - 1,5 years

Discipline code	Name of disciplines	Block	Cycle	Total ECTS credits	Total hours	Lk/lab/pr Contact hours	in hours SIS (including TSIS)	Form of control	Allocation of face-to-face training based on courses and semesters			Prerequisites
									1 course		2 course	
									1 sem	2 sem	3 sem	
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)												
CYCLE OF BASIC DISCIPLINES (BD)												
M-1. Module of basic training (university component)												
SEC201	Algorithms of cryptographic protection of information	1	BD, CCH	5	150	30/0/15	105	E	5			
SEC210	Methods of cryptology and means of information protection	1	BD, CCH	5	150	30/0/15	105	E	5			SEC121, SEC132
LNG212	Foreign language (professional)		BD, UC	2	60	0/0/30	30	E		2		
MNG726	Management		BD, UC	2	60	15/0/15	30	E		2		
HUM211	Psychology of management		BD, UC	2	60	15/0/15	30	E		2		
SEC257	Security of virtualization and cloud technologies	1	BD, CCH	4	120	30/0/15	75	E		4		
SEC256	Python for solving information security problems	1	BD, CCH	4	120	15/0/30	75	E		4		
CYCLE OF PROFILE DISCIPLINES (PD)												
M-2. Module of professional activity (university component, component of choice)												
SEC214	Organization of protection and safety of a database		PD, UC	5	150	30/0/15	105	E	5			
CSE718	Technical protection of information	1	PD, CCH	5	150	15/0/30	105	E	5			
SEC238	Steganographic methods of information protection	1	PD, CCH	5	150	15/0/30	105	E	5			
SEC215	Organization of information security systems		PD, UC	5	150	15/15/15	105	E		5		
SEC246	Big Data and Data Analysis	1	PD, CCH	5	150	30/15/0	105	E		5		
CSE746	Machine Learning & Deep Learning	1	PD, CCH	5	150	30/0/15	105	E		5		
SEC248	Security Internet of things	2	PD, CCH	5	150	15/0/30	105	E		5		
SEC222	Technologies of protection of wireless networks (applications)	2	PD, CCH	5	150	15/0/30	105	E		5		
SEC204	Information Security Audit	3	PD, CCH	5	150	30/0/15	105	E		5		
SEC245	Risk management in cyber security	3	PD, CCH	5	150	30/0/15	105	E		5		
SEC234	OLAP and Data Warehousing	4	PD, CCH	5	150	15/15/15	105	E		5		
CSE258	Data analysis and Data retrieval	4	PD, CCH	5	150	15/15/15	105	E		5		CSE248
SEC240	Cybercrime and computer forensics	5	PD, CCH	5	150	30/0/15	105	E		5		
SEC247	Intellectualized recognition and countermeasures for cyber attacks	5	PD, CCH	5	150	30/0/15	105	E		5		
SEC251	IT project and information risk management		PD, UC	4	120	30/0/15	75	E			4	
M-3. Practice-oriented module												
AAP248	Internship		PD, UC	5				R	5			
M-4. Experimental and research module												

AAP249	Experimental research work of a master student, including an internship and the implementation of a master's project	ERWMS	18				R			18	
M-5. Module of final attestation											
ECA213	Design and defense of the master's project	FA	8							8	
Total based on UNIVERSITY:								20	40	30	
								60		30	

Number of credits for the entire period of study

Cycle code	Cycles of disciplines	Credits			
		Required component (RC)	University component (UC)	Component of choice (CCH)	Total
GED	Cycle of general education disciplines	0	0	0	0
BD	Cycle of basic disciplines	0	6	9	15
PD	Cycle of profile disciplines	0	19	30	49
Total for theoretical training:		0	25	39	64
RWMS	Research Work of Master's Student				0
ERWMS	Experimental Research Work of Master's Student				18
FA	Final attestation				8
TOTAL:					90

Decision of the Educational and Methodological Council of KazNRTU named after K.Satpayev. Minutes № 3 dated 20.12.2024

Decision of the Academic Council of the Institute. Minutes № 4 dated 22.11.2024

Signed:

Governing Board member - Vice-Rector for Academic Affairs

Uskenbayeva R. K.

Approved:

Vice Provost on academic development

Kalpeyeva Z. B.

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Satybaldiyeva R. Ж.

Representative of the Academic Committee from Employers

Pokusov V. V.

____ Acknowledged ____

