

CONTENT OF THE EDUCATIONAL PROGRAM

№	Code and name of modules	Total credits by module	№	Name of subject and code	Credits by subjects	Cycle/component
1	GES -1 General education module	36	1	GES 101 History of Kazakhstan	5	GC/ CC
			2	GES 102 Philosophy	5	GC/ CC
			3	GES 103 Social and Political Knowledge Module (Sociology, Cultural Studies, Political Science, Psychology)	8	GC/ CC
			4	GES 1(2)04 Physical Culture	8	GC/ CC
			5	GES 205 Information and communication technology	5	GC/ CC
			6	GES 106/1 Fundamentals of Legal Literacy and Anti-Corruption culture GES 106/2 Fundamentals of ecology and safe living GES 106/3 Fundamentals of Economics and Entrepreneurship/ GES 106/4 Fundamentals of Leadership and receptivity to innovation GES 106/5 Emotional Intellect GES 106/6 Fundamentals of mathematical statistics GES 106/7 Ecology and sustainable development GES 106/8 Financial Literacy	5	GC/ OC
2	GLC -2 Language communication	25	1	GLC 101 Kazakh (Russian) Language	10	GC/ CC
			2	GLC 102 Foreign Language	10	GC/ CC
			3	GLC 203 English for Academic Purposes	5	CC/ CC
				GLC 204 Academic writing		
3	GER – 3 Global ethics and research	19	1	GER 201 Inclusive education	4	CC/ UC
			2	GER 303 Professional ethics and identity	5	MD/ CC
			3	GER 402/2 Fundamentals of scientific research	10	CC/ UC

4	FSC - 4 Fundamental Science	25	1	FSC 101 Algorithm and data structure	6	CC/ UC
			2	1. FSC 102/1 Higher Mathematics 2. FSC 102/2 Linear Algebra and Analytical Geometry	5	CC/ OC
			3	1. FSC 203/1 Discrete Mathematics and Mathematical Logic 2. FSC 203/2 Probability Theory and Mathematical Statistics	6	CC/ OC
			4	FSC 204 Computer architecture and operating systems	6	CC/ UC
			5	TP 105 Training practice	2	CC/ UC
5	PLT-5 Programming Languages and Technologies	34	1	PLT 201 Programming technologies	6	CC/ UC
				PLT 302/1 Programming language JAVA	6	CC/ OC
			2	PLT 302/2 Object-oriented programming		
			3	PLT 403 Parallel Programming	4	MD/ UC
			4	1. PLT 304/1 Web development 2. PLT 304/2 Methods for Developing Web Applications	6	CC/ OC
			5	PLT 205 Databases	6	CC/ UC
			6	TP 206 Training practice	2	CC/ UC
			7	PP 307 Production practice	4	CC/ UC
6	DAT-6 Digital analytical educational technologies	22	1	1. DAT 301/1 Designing Mobile Applications 2. DAT 301/2 Development and Creation of Computer Games	5	MD/ OC
			2	1. DAT 202/1 Machine Learning 2. DAT 202/2 Artificial intelligence systems	6	CC/ OC
			3	DAT 403 IT Project Management	5	MD/ UC
			4	DAT 304 Artificial intelligence and analytics	6	MD/ UC

7	ITE-7 Innovative technologies in the educational system	24	1	ITE 301/1 Web Analytics ITE 301/2 Web analytics technologies and tools	6	MD/ OC
			2	ITE 302 Information and Analytical Systems	6	MD/ UC
			3	ITE 303 Educational Data Mining	5	CC/ UC
				ITE 101 Introduction to Digital Education	5	CC/ UC
			4	P(P)P 404 Pre-diploma (Production) practice	2	MD/ UC
8	ISD-8 Information security and database management system	27	1	ISD 301 Cyber Security and Attack Vectors	6	MD/ UC
			2	ISD 202/1 Big Data Analytical Systems ISD 202/1 BigData	5	CC/ OC
			3	PP 403 Production practice	16	MD/ UC
9	CNM-9 Computer networks and modeling	5	1	CNM 301/1 Computer network design CNM 301/2 Computer Networks	5	CC/ OC
10	DCR-10 Designer of children's robotics	15	1	DCR 402 Design of robots and robotic systems	5	CC/ OC
			2	DCR 403 Multimedia technologies	5	CC/ OC
			3	DCR 404 Software for mechatronic and robotic systems	5	CC/ OC
11	Final certification	8	1	WDDP(P)PCE 401 Writing and defending a thesis (project) or preparing and taking a comprehensive exam	8	FC
TOTAL:		240			240	