2. 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 educational subjects 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 Technologies	5	GC/ CC
			6	**GES 106/1** Fundamentals of Legal Literacy and Anti-Corruption culture / **GES 106/2** Fundamentals of Ecology and Safe life / **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	5	GC/ OC
2	**GLC -2** **Language communication module**	**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/ UC
3	**GER – 3**	**22**	1	**GER 201** Inclusive Education	6	CC/ UC
			2	**GER 402/2** Fundamentals of scientific research	6 4	CC/ UC

	Global Ethics and Research module		3	**GER 303** Professional ethics and identity	6	MC/ UC
4	**PDM – 4**	**26**	1	**TP 101** Training Practice	2	CC/ UC
	Professional Development module		2	**TP 202** Training Practice	2	CC/ UC
			3	**PP 303** Production practice	4	CC/ UC
			4	**PP 404** Production practice	16	MC/ UC
			5	**P(P)P 405** Pre -diploma (production) practice	2	MC/ UC
5	**FHM-5**	**10**	1	**FHM 101/1** Mathematical analysis and analytical geometry	5	CC/ OC
	Fundamentals of higher mathematics			**FHM 101/2** Algebra and number theory		
			2	**FHM 202/1** Differential equations	5	CC/ OC
				FHM 202/2 Theory of functions of a complex variable		
6	**GPh-6**	**44**	1	**GPh 101** Mechanics	6	CC/ UC
	General physics		2	**GPh 202** Molecular physics and thermodynamics	6	CC/ UC
			3	**GPh 203** Electricity and magnetism	6	CC/ UC
			4	**GPh 204** Optics	6	CC/ UC
			5	**GPh 205/1** Atomic physics	5	CC/ OC
				GPh 205/2 Beginnings of modern physics		
			6	**GPh 306/1** Nuclear physics	6	CC/ OC
				GPh 306/2 Introduction to elementary particle physics		
			7	**GPh 307** Bases of problem solving on physics	5	CC/ UC
			8	**GPh 408** Astrophysics	4	CC/ UK
7	**PhWSS – 7**	**27**	1	**PHWSS 201/1** Laboratory workshop in physics	5	MC/ OC
				PHWSS 201/2 Physical experiment methods		

	Physical workshop and special sections		2	**PHWSS 302** Fundamentals of vector and tensor analysis	6	MC/ UK
			3	**PHWSS 303/1** Workshop on solving physical problems of increased complexity		MC/ OC
				PHWSS 303/2 Theory and methodology of solving physical problems	6	
			4	**PHWSS 304** Mechanical installations	5	CC/ UK
			5	**PHWSS 405** Computer processing of scientific data in physics	5	MC/ UC
8	**SThPh – 8** **Sections of theoretical physics**	**27**	1	**SThPh 201/1** Physics of solids		CC/ OC
				SThPh 201/2 Methods of mathematical physics	5	
			2	**SThPh 302/1** Electrodynamics and SRT		MC/ OC
				SThPh 302/2 Applied electrodynamics	5	
			3	**SThPh 303/1** Statistical physics and thermodynamics		MC/ OC
				SThPh 303/2 Fundamentals of kinetic theory	6	
			4	**SThPh 304/1** Quantum mechanics		MC/ OC
				SThPh 304/2 Theory of electromagnetic radiation	6	
			5	**SThPh 305** Selected Chapters in Theoretical Physics	5	CC/ UK
	(Minor) Multifunctional Materials Researcher	**15**	1	**(M) DMM 401** Condensed matter physics	5	CC/ UC
			2	**(M) DMM 402** Fundamentals of nanotechnology	5	CC/ UC
			3	**(M) DMM 403** Fundamentals of quantum chemical calculations	5	CC/ UC
	Final attestation	**8**		**WDDP(P)PCE 401** Writing and defending a diploma paper (project) or passing a comprehensive exam	8	FA
	TOTAL:	**240**			**240**	