

## 2. CONTENT OF THE EDUCATIONAL PROGRAM

№	Code and name of modules	Total number of loans	№	Code and name of discipline	Academic credit of the discipline	Cycle/ component
<b>1</b>	<b>GES -1</b>  <b>Module of general education subject</b>	<b>36</b>	1	<b>GES 101</b> History of Kazakhstan	5	GED/ CC
			2	<b>GES 102</b> Philosophy	5	GED/ CC
			3	<b>GES 103</b> Social and Political Knowledge Module (Sociology, Cultural Studies, Political Science, Psychology)	8	GED/ CC
			4	<b>GES 1(2)04</b> Physical Culture	8	GED/ CC
			5	<b>GES 205</b> Information and Communication Technologies	5	GED/ CC
			6	1. <b>GES 106/1</b> Fundamentals of Legal Literacy and Anti-Corruption culture / 2. <b>GES 106/2</b> Fundamentals of Ecology and Safe life / 3. <b>GES 106/3</b> Fundamentals of Economics and Entrepreneurship / 4. <b>GES 106/4</b> Fundamentals of Leadership and receptivity to innovation / 5. <b>GES 106/5</b> Emotional Intellect 6. <b>GES 106/6</b> Fundamentals of mathematical statistics	5	GED / OC
<b>2</b>	<b>GLC -2</b>  <b>Language communication</b>	<b>25</b>	1	<b>GLC 101</b> Kazakh (Russian) Language	10	GED/ CC
			2	<b>GLC 102</b> Foreign Language	10	GED/ CC
			3	<b>GLC 203</b> English for Academic Purposes	5	CC/UK
<b>3</b>	<b>GER – 3</b>  <b>Global ethics and scientific research</b>	<b>48</b>	1	<b>GER 201</b> Inclusive Education	6	CC/UK
			2	<b>GER 402/2</b> Fundamentals of scientific research	10	CC/UK
			3	<b>GER 303</b> Professional ethics and identity	6	CM /UK
			4	<b>TP 104</b> Training Practice	2	CC/UK
			5	<b>TP 205</b> Training Practice	2	CC/UK
			6	<b>PP 306</b> Production practice	4	CC/UK
			7	<b>PP 407</b> Production practice	16	CM /UK
			8	<b>P(P)P 408</b> Pre -diploma (production) practice	2	CM /UK
<b>4</b>	<b>FCh -4</b> <b>Fundamentals of Chemistry</b>	<b>48</b>	1	<b>FCh 101</b> Inorganic chemistry 1	6	CC/UK
			2	<b>FCh 102</b> Inorganic chemistry 2	5	CC/UK
			3	<b>FCh 203/1</b> Chemistry of elements <b>FCh 203/2</b> Chemistry of transuranic elements	5	CC/OC
			4	<b>FCh 204/1</b> Qualitative analysis <b>FCh 204/2</b> Chromatographic research methods	6	CC/OC

			5	<b>FCh 205</b> Physical chemistry	6	CC/UK
			6	<b>FCh 206/1</b> Quantitative analysis <b>FCh 206/2</b> Basics of metrology and standardization	5	CC/OC
			7	<b>FCh 207/1</b> Quantum chemistry <b>FCh 207/2</b> Chemistry of coordination	5	CC/OC
			8	<b>FCh 308/1</b> Higher mathematics <b>FCh 308/2</b> Applied Mathematics	5	CC/OC
			9	<b>FCh 309</b> Physical research methods	5	CC/UK
<b>5</b>	<b>FOCh -5 Fundamentals of organic chemistry</b>	<b>26</b>	1	<b>FOCh 201</b> Organic chemistry 1	6	CC/UK
			2	<b>FOCh 202</b> Organic chemistry 2	5	CC/UK
			3	<b>FOCh 303/1</b> Chemistry of natural compounds <b>FOCh 303/2</b> Biochemistry and BAS	5	CM/OC
			4	<b>FOCh 304/1</b> Geochemistry <b>FOCh 304/2</b> Petrochemistry	5	CM/OC
			5	<b>FOCh 305/1</b> Chemistry of high-molecular compounds <b>FOCh 305/2</b> Chemistry of medicinal substances	5	CM/OC
	<b>SBCh -6 Selected branches of chemistry</b>	<b>34</b>	1	<b>SBCh 301</b> Chemical technology	5	CC/UK
			2	<b>SBCh 302</b> Colloid chemistry	5	CC/UK
			3	<b>SBCh 303</b> Computer chemistry	5	CC/UK
			4	<b>SBCh 304/1</b> Methods of solving complex problems in chemistry <b>SBCh 304/2</b> Chemistry tasks	5	CC/OC
			5	<b>SBCh 405/1</b> Foundation nanochemistry <b>SBCh 405/2</b> Foundation nanotechnology	5	CM/OC
			6	<b>SBCh 306</b> Chemical synthesis	5	CM/UK
			7	<b>SBCh 407/1</b> General chemistry <b>SBCh 407/2</b> Chemical experiment	4	CM/OC
	<b>(Minor) Ecologist chemist</b>	<b>15</b>	1	(M) ChE <b>401</b> Environmental chemistry	5	CC/OC
			2	(M) ChE <b>402</b> Biogeochemistry and Ecotoxicology	5	CC/OC
			3	(M) ChE <b>403</b> Ecological aspect of natural science	5	CC/OC
	<b>Final attestation</b>	<b>8</b>	1	<b>WDDP(P)PCE 401</b> Writing and defending a diploma paper (project) or passing a comprehensive exam	8	ИА
<b>TOTAL:</b>		<b>240</b>			<b>240</b>	

