Appendix 1

Bachelor's Educational Program in Chemistry

CURRICULUM

N	Name of Courses/Modules, etc.	Number of credits	Hours						Distribution of credits in semesters							
			Including													
			Total	Lecture	Laboratorial	Practical	Work in groups	Independent work	I semester	II semester	III semester	IV semester	V semester	VI semester	VII semester	VIII semester
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Major Courses/Modules																
1	History of Georgia	3	75	15			15	45	3							
2	Introduction to Philosophy	2	50	15			15	20	2							
3	Academic Writing	3	75	15			15	45	3							
4	Psychology	2	50	15			5	30	2							
5	Introduction to Biology	5	125	15			30	80	5							
6	Introduction to Geography	5	125	20			30	75	5							
7	Introduction to Ecology	5	125	15			30	80	5							
8	Introduction to Chemistry	5	125	15	30		15	65	5							
9	English – A 1 / B.1.1.1	5	125				60	65		5						
10	English – A 2 / B.1.1.2	5	125				60	65			5					
11	English – B1.1/B 1.2	10	250				120	130				10				
12	Information Technologies	5	125	30			30	65		5						
13	Higher Mathematics	5	125	15			30	80		5						
14	Basics of Physics	5	125	15	25		5	80		5						
15	General Chemistry	5	125	15	30		10	70		5						
16	Inorganic Chemistry	10	250	30	40		30	150			10					
17	Analytical Chemistry	10	250	30	40		30	150				10				
18	Organic Chemistry	10	250	30	40		30	150				10				
19	Physical Chemistry	10	250	30	40		30	150					10			

20	Chemical Basics of Life	5	125	15	25		5	80					5			
21	Quantum Physics	5	125	30			15	80		5						
22	Colloid Chemistry	5	125	15	25		15	70						5		
23	Basics of Ecological Chemistry	5	125	15	25		5	80			5					
24	Structure of Substance	5	125	30			15	80			5					
25	Supramolecular Compounds Chemistry	5	125	15	30		10	70						5		
26	Chemical Technology	5	125	15	30		15	65							5	
27	Physical Methods of Research	5	125	15	30			80			5					
28	Internship	5	125			45		80							5	
29	Attestation Module/Bachelor's Thesis	10	250	30		40		180								10
Optional Courses in Major														5	5	5
30	Basics of Coordination Chemistry	5	125	15	25		5	80								
31	Mixture Division Methods	5	125	15	30			80								
32	Natural Compounds Chemistry	5	125	15	30			80								
33	Basics of Cristal Chemistry	5	125	15			30	80								
34	Basics of Medical Chemistry	5	125	15	30			80								
	Total	**240**							**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**
Minor Specialty Courses/Modules																
	Compulsory Courses															
	Inorganic Chemistry	10	250	30	45		30	145					10			
	Analytical Chemistry	10	250	30	45		30	145						10		
	Organic Chemistry	10	250	30	45		30	145							10	
	Physical Chemistry	10	250	30	45		30	145								10
	Optional Courses												5	5	5	5
	General Chemistry	5	125	15	30			80								
	Colloid Chemistry	5	125	15	25		5	80								
	Chemical Technology	5	125	15	25		5	80								

	Supramolecular Compounds Chemistry	5	125	15	30			80								
	Basics of Ecological Chemistry	5	125	15	25		5	80								
	Chemical Basics of Life	5	125	15	25		5	80								
	Basics of Coordination Chemistry	5	125	15	25		5	80								
	Methods of Mixture Division	5	125	15	30			80								
	Natural Compounds Chemistry	5	125	15	25		5	80								
	Total	**60**											**15**	**15**	**15**	**15**

Appendix 2

Master's Educational Program in Chemistry

CURRICULUM

N	Name of Courses/Modules, etc.	Number of credits	Hours						Distribution of credits in semesters							
			Including													
			Total	Lecture	Laboratorial	Practical	Work in group	Independent work	I semester	II semester	III semester	IV semester	V semester	VI semester	VII semester	VIII semester
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Major Courses/Modules																
1	Selected Chapters of Inorganic Chemistry	5	125	5	25			95	5							
2	Selected Chapters of Bioorganic Chemistry	5	125	5	25			95	5							
3	Selected Chapters of Physical Chemistry	5	125	15			15	95	5							
4	Instrumental Methods of Research I	5	125	5	25			95	5							
5	English **B1.2**	10	250				60	190	10							
	Optional Modules															
	Bioorganic Chemistry															
6	Mechanisms of Bioorganic Reactions	10	250	15			45	190		10						
7	Chemistry and Biochemistry of Secondary Metabolites	10	250	15	45			190		10						
8	Chromatographic Methods of Natural Compounds Analysis	5	125	5	25			95			5					
9	Biocoordination Compounds Chemistry	5	125	15	15			95			5					
10	Food Product Analysis	10	250	10	50			190			10					
11	Chemistry and Biochemistry of Low Molecular Bioregulators	10	250	15	45			190			10					
	Inorganic and															

	Coordination Compounds Chemistry															
12	Chemistry of Metals	10	250	15	45			190		10						
13	Chemistry of Complex Compounds	10	250	15	45			190		10						
14	Methods of Inorganic and Coordination Compounds Synthesis	10	250	15	45			190			10					
15	Quantitative Analysis	10	250	15	45			190			10					
16	Biocoordinate Compounds Chemistry	5	125	15	15			95			5					
17	Stereo- and Specter Chemistry of Inorganic and Coordination Compounds	5	125	15			15	95			5					
	Physical Chemistry of Membrane Processes															
18	Physical Chemistry of Dispersive Processes	5	125	15	15			95		5						
19	Theoretical Basics of Membrane Processes	10	250	30			30	190		10						
20	Electrical Chemistry	10	250	15	30		15	190			10					
21	Physical Chemistry of Baro Membrane Processes	10	250	15	30		15	190			10					
22	Apparatus and Equipment of Membrane Processes	5	125	15			15	95		5						
23	Electrical Membrane Processes	10	250	15	30		15	190			10					
	Chemical Expertise															
24	Classical and Modern Methods of Analytical Chemistry	10	250	15	45			190		10						
25	Chemical Analysis and Expertise of Drinking Water	10	250	15	45			190		10						
26	Food Products Physical-Chemical Analysis and Expertise	10	250	15	45			190			10					
27	General Metrology, Basics of Standardization and Certification	10	250	30			30	190			10					
28	Quality Management	10	250	30			30	190			10					

	Systems															
Free Components (Optional)																
29	Instrumental Methods of Research 2	10	250	10	50			190		10						
30	Basics of Biotechnology	10	250	15	45			190		10						
31	Organic Ligands Chemistry	10	250	15	45			190		10						
32	Membrane Technology in Food Industry	10	250	20	40			190		10						
33	Membrane Processes of Natural and Waste Water Purification	10	250	20	40			190		10						
34	Mineral Waters Expertise	10	250	15	45			190		10						
35	Soft and Alcoholic Drinks Expertise	10	250	15	45			190		10						
	Total	**240**							**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**