№	Theme of laboratory classes	Hours	Date
1	Safety regulations in the chemical laboratory. Analytical reactions of group I cations: K^+, Na^+, NH_4^+	4	5.09.-11.09.18.
2	Analytical reactions of group II cations: Ag^+, Pb^{2+}, Hg_2^{2+}. Solving problems on the sensitivity of the analytical reaction.	4	12.09.-18.09.18.
3	Analytical reactions of group III cations: Ca^{2+}, Sr^{2+}, Ba^{2+}. Solving problems for ionic strength and solubility.	4	19.09.-25.09.18.
4	**Practical lesson.** Analysis of the mixture of cations I-II-III groups. (class one). Solving problems for the product of solubility.	4	26.09.-2.10.18.
5	UIRS: analysis of a mixture of cations of I-III groups (second occupation). Delivery of the analysis protocol.	4	3.10-9.10.18.
6	Analysis of IV-VI cations. Test 1. Analytical reactions of Group IV cations: Al^{3+}, Zn^{2+} , Cr^{3+}. Solving problems.	4	10.10.-16.10.18.
7	Analytical reactions of group V cations: Mg^{2+}, Fe^{3+}, Bi^{3+} .	4	17.10.-23.10.18
8	Analytical reactions of cations of group VI: Cu^{2+}, Co^{2+}, Ni^{2+}.	4	24.10.-30.10.18.
9	**Practical lesson.** Analysis of the mixture of cations IV-VI groups (first class). Solving problems on the basis of the optical resolution and the pH of solutions.	4	31.10.-6.11.18.
10	UIRS: analysis of a mixture of VI-VI cations (second class).	4	7.11.-13.11.18.
11	Extraction and chromatographic methods for the separation and detection of cations. Sedimentation and peak chromatography.	4	14.11.-20.11.18.
12	Analytical reactions of Group I anions: SO_4^{2-}, SO_3^{2-}, $S_2O_3^{2-}$, PO_4^{3-}, CO_3^{2-}, $C_2O_4^{2-}$.	4	21.11.-27.11.18.
13	Analytic reactions of Group II-III anions: Cl^-, Br^-, J^-, S^{2-}, NO^-_3, NO^-_2, CH_3COO^-. Solution of tasks on complex connection.	4	28.11.-4.12.18.
14	**Practical lesson.** Analysis of a mixture of anions of Groups I-III. (first class)	4	5.12.-11.12.18.
15	Analysis of the mixture of anions of the I-III anion groups (second class).	4	12.12.-18.12.18.
16	UIRS: analysis of dry salt of unknown composition.	4	19.12.-25.12.18.
17	Gravimetry. Determination of the mass fraction of water $CuSO_4 \cdot 5H_2O$ in crystalline hydrate. (first class). Solving problems.	4	
18	Determination of the mass fraction of water $CuSO_4 \cdot 5H_2O$ in crystalline hydrate. (second class). Evaluation of students` self-study.	4	
Total 18X4=72 hours			