№	LECTURES THEME	Hours	Date
1	Introduction. Basic concepts of modern analytical chemistry, goal and objectives. Brief history the development of the subject.	2	5.09.-11.09.18.
2	Chemical reactions are the main processes of analysis. The state of ions in solution. Ionic strength, activity coefficient. Classification of solvents.	2	12.09.-18.09.18.
3	The main types of chemical equilibrium. The use of heterogeneous equilibrium in analytical chemistry.	2	19.09.-25.09.18.
4	Acid-base balance and its application in analysis.	2	26.09.-2.10.18.
5	The equilibrium of hydrolysis and buffer solutions and its significance in the analysis.	2	3.10-9.10.18.
6	Oxidation-reduction equilibrium in the chemical system and affecting factors. The Nernst equation.	2	10.10.-16.10.18.
7	Equilibrium of complex formation. Factors affecting complex formation.	2	17.10.-23.10.18
8	Application of organic reagents in analytical chemistry. Methods of separation and concentration.	2	24.10.-30.10.18.
9	Extraction equilibrium. Factors affecting the equilibrium.	2	31.10.-6.11.18.
10	Basic concepts of chromatographic analysis. Classification. Types of chromatography.	2	7.11.-13.11.18.
11	Quantitative analysis. Classification. Errors in quantitative analysis. Classification. Statistical processing of the results of quantitative analysis. Evaluation of the confidence interval.	2	14.11.-20.11.18.
12	Gravimetry, its classification. The main stages of gravimetry in the precipitation method.	2	21.11.-27.11.18.
13	Crystalline and amorphous precipitates. Pollution of sediment. Coprecipitation. Colloidal solutions and their role in analysis.	2	28.11.-4.12.18.
14	Titrimetric analysis. Basic concepts. Requirements for titrimetry reactions. Classification of titrimetry.	2	5.12.-11.12.18.
15	Indicators of acid-base titration. Theory of indicators.	2	12.12.-18.12.18.
16	Curves of acid-base titration, their construction and analysis. Errors of acid-base titration, the causes of their occurrence, methods of elimination.	2	19.12.-25.12.18.
17	Application of acid-base titration. Alkali and acidimetry. Titration of polyprotonic acids.	2	
18	Acid-base titration in non-aqueous media. Classification of the method. Classification of solvents. Titrant method. Determination of the KTT point. Application of the method.	2	
TOTAL 18 x 2=36 hours			