

CALENDAR-THEMATIC PLAN OF LABORATORY CLASSES
in Physical and Colloid Chemistry for 2st year students
spring semester 2023/2024

Medical Faculty for International Students (Pharmacy)

| № | Data | Topic (3 hours) |
|-----|-------------|---|
| 1. | 12.02-16.02 | Electrochemistry: conductometry. L.w.: «Conductometric determination of the degree and constant of dissociation for a weak electrolyte» |
| 2. | 19.02-23.02 | Electrochemistry: Conductometric titration. L.w.: «Conductometric determination of zinc ions concentration in a solution» |
| 3. | 26.02-01.03 | Electrochemistry: potentiometry. L.w.: «Potentiometric determination of the coefficient of activity for an electrolyte» |
| 4. | 04.03-08.03 | Physical and chemical basics of surface phenomena: adsorption on a mobile phase. L.w.: «Stalagmometric determination of the dependence between the length of hydrophobic tail of SAS and surface tension of a solution» |
| 5. | 11.03-15.03 | Physical and chemical basics of surface phenomena: adsorption on a stationary phase. L.w.: «Study of the adsorption of a substance from a solution on a solid sorbent» |
| 6. | 18.03-22.03 | Physical and chemical basics of surface phenomena: chromatography. L.w. «Analysis of HPLC-MS data» |
| 7. | 25.03-29.03 | Colloquium № 1 «Basics of electrochemical and surface phenomena» |
| 8. | 01.04-05.04 | Dispersed systems: Classification of dispersed systems, structure of colloid particles. L.w.: «Production of colloid solutions by the method of condensation» |
| 9. | 08.04-12.04 | Dispersed systems: molecular kinetic properties of colloid solutions. L.w.: «Production of colloid solutions by the method of peptization» |
| 10. | 15.04-19.04 | Dispersed systems: optical properties of colloid solutions. L.w.: «Recording and analysis absorption spectra of colloid solutions» |
| 11. | 22.04-26.04 | Dispersed systems: electrokinetic events in colloid solutions. L.w.: «Estimation of coagulation threshold for a sol by colorimetric method» |
| 12. | 29.04-03.05 | Dispersed systems: stability and coagulation of colloid solutions. L.w.: «Protective action of gelatin on colloid solutions» |
| 13. | 06.05-10.05 | Different types of dispersed systems: aerosols, powders, suspensions, emulsions. L.w.: «Production of emulsions and study of their properties» |
| 14. | 13.05-17.05 | Different types of dispersed systems: colloid solutions of surface active substances. L.w.: «Conductometric estimation of critical micelle concentration» |
| 15. | 20.05-24.05 | Biopolymers and their solutions: structure and classification, isoelectric point of biopolymers. L.w.: «Estimation of isoelectric point of a protein» |
| 16. | 27.05-31.05 | Biopolymers and their solutions: Thermodynamics of solutions of biopolymers. L.w.: «Determination of the dependence between the swelling degree of gelatin and acidity of a medium; salting gelatin out of a solution» |
| 17. | 03.06-07.06 | Biopolymers and their solutions: osmotic pressure and viscosity of solutions of biopolymers. L.w.: «Estimation of molecular mass of polyglucin by the method of viscosimetry» |
| 18. | 10.06-14.06 | Colloquium № 1 «Basics of physical chemistry of dispersed systems and solutions of biopolymers» |

The plan was approved at a department meeting № 1, 15.01.2024.

Head of the Department of General Chemistry



V.V.Khrustalev