

## **Программа вступительного испытания**

**По химии, для приема иностранных граждан и лиц без гражданства на обучение с применением языка - посредника (английский язык)**

### **Syllabus of the entrance test in chemistry**

Section 1. Physical Chemistry 1. Atomic structure. Amount of substance. Bonding. Energetics. Kinetics. Equilibria. Oxidation, reduction and redox reactions.

Section 2. Inorganic Chemistry. Periodicity. Group 2, The Alkaline Earth metals. Group 7, the Halogens.

Section 3. Organic Chemistry. Introduction to organic chemistry. Alkanes. Halogenoalkanes. Alkenes. Alcohols. Organic analysis.

Section 4. Physical Chemistry 2. Thermodynamics. Kinetics. Equilibrium constant K. Electrode potentials and electrochemical cells. Acids, bases, and buffers.

Section 5. Inorganic Chemistry 2. Periodicity. The transition metals. Reactions of inorganic compounds in aqueous solutions.

Section 6. Organic Chemistry 2. Nomenclature and isomerism. Compounds containing the carbonyl group. Aromatic chemistry. Amines. Polymerisation. Amino acids, proteins, and DNA. Organic synthesis and analysis. Structure determination. Chromatography.