

Division: *Institute of Natural Sciences and Mathematics, Department of Theoretical and Applied Chemistry*

Academic programme: *04.04.01 Chemistry, Organic and Organoelement Chemistry*

Mode of study: *full-time*

Programme length: *2 years*

Programme level: *Master's degree*

Language of instruction: *Russian*

Programme description: *Education combines in-depth theoretical training in the field of organic chemistry and chemistry of organoelement compounds, studying synthetic methods, modern methods of analysis and study of chemical compounds. When performing scientific research during practical courses and preparing final qualification works, high-tech equipment of Materials Science and Nanotechnology Research and Education Centre, which meets international standards, is used. Upon completion of the Master's programme, graduates can continue their postgraduate studies at South Ural State University, Ural Federal University, the Institute of Organic Synthesis of the Ural Branch of the Russian Academy of Sciences (Yekaterinburg), the Institute of Organic Chemistry of the Russian Academy of Sciences (Moscow) and other scientific centres. Graduates have the competencies to perform professional activities in organic and organoelement synthesis, analysis of chemical compounds, study of the properties of substances and materials; can work in environmental control laboratories, pharmaceutical and medical chemistry enterprises, expert laboratories.*

Main programme-specific classes:

- *Theoretical Fundamentals of Organic Chemistry*
- *Mechanisms of Reactions in Organic Chemistry*
- *Organic Synthesis and Organometallic Catalysis*
- *Analysis of Organic and Organoelement Compounds*
- *Chemical Bond Theory: Introduction to Calculation Methods*
- *Chemistry of Heterocyclic Compounds*
- *Methods of Organoelement Chemistry*
- *Chemistry of Natural Compounds*
- *Industrial Organic and Organoelement Chemistry*
- *Chemical Informatics*
- *Relevant Problems of Modern Chemistry*
- *Seminar on Organic Chemistry*
- *Profession-oriented English*

Programme manager: Olga K. Sharutina, Doctor of Sciences (Chemistry), Head of the Department of Theoretical and Applied Chemistry