



## **COURSE: Additional chapters of Organic Chemistry**



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**LANGUAGES OF EDUCATION:** Russian, English

**THE SUBJECT** of the educational course: the study of synthetic methods and chemical transformations of chemical compounds, methods for their isolation and purification from the mixture, and testing the purity of the compounds obtained.

**THE GOAL** of the course includes the formation of the following **abilities** of students:

- ❖ ability to distinguish the classes of organic compounds;
- ❖ to be able to identify the correlation between the classes and the homologous series of organic compounds;
- ❖ ability to carry out the conversion of organic compounds;
- ❖ ability to predict the properties of organic compounds by their structure;
- ❖ ability to detect the structure of organic compounds on their properties;
- ❖ ability to plan the scheme for the synthesis of complex organic compounds from simple;
- ❖ knowledge of the safety rules during the work in the laboratory of organic chemistry;
- ❖ ability to predict the practical use of organic substances;
- ❖ ability to conduct experiments to identify the chemical properties of organic compounds;
- ❖ ability to allocate from mixtures of organic substances;
- ❖ ability to determine the purity of the organic substances.

### **THE MAIN TASK OF THE EDUCATIONAL COURSE**

Following the demands of an educational-professional program, after the finishing of this course must demonstrate such learning outcomes:

#### **Knowledge:**

- ✓ of general concepts of the chemistry of organic compounds;
- ✓ of the basis of mechanisms of organic reactions;
- ✓ of the range of organic substances;
- ✓ of various classes of organic compounds;
- ✓ of basic methods for different classes of organic compounds;
- ✓ of the reactivity of different classes of organic compounds;
- ✓ of the correlation between the various classes of organic compounds;
- ✓ of general concepts on how to clean organics;
- ✓ of setting the purity of organic compounds in different aggregate states;
- ✓ of the work safety in the laboratory of organic substances;
- ✓ of practical use of organic substances.

#### **Skills:**

- ✓ to plan synthesis of organic compounds;
- ✓ to identify the connection between classes of organic compounds and convert them;
- ✓ of planning purification of organic compounds;
- ✓ to establish the purity of organic compounds;
- ✓ to predict the practical use of organic substances.

#### **Experience:**

- ✓ of conducting experiments on the synthesis, isolation, and purification of organic compounds.

**COURSE DURATION:** 36 academic hours of laboratory works

**REQUIREMENTS TO STUDENTS:** knowledge in the field of organic chemistry, General and Inorganic Chemistry, Analytical Chemistry

