

**224 TECHNOLOGIES OF MEDICAL DIAGNOSIS AND TREATMENT**  
**educational-professional program at the second (master's) level**  
**LABORATORY DIAGNOSTICS**



The program's guarantor is **Litvinova Olga Mikolaevna**

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Program subject area	22 Health Care
Specialty	224 Technologies of medical diagnostics and treatment
The amount of the program	90 ECTS credits
The duration of the program	1 year 6 months
Form of study	A full-time education

Educational and professional program "Laboratory diagnostics" is aimed at forming a graduate of the ability to solve complex specialized problems and practical problems during professional activity in the field of laboratory medicine and in educational process, which involves the application of theoretical foundations and methods of laboratory diagnosis for the purpose of integrate assessment of morphological and functional state of organs and systems of patients; to establish a laboratory diagnosis, conduct sanitary-hygienic examination.

**Features of the educational and professional program**

Only a full-time education is allowed on the base of the bachelor's degree in the specialty "Technologies of medical diagnostics and treatment". A availability of practice in clinical-diagnostic, biochemical, bacteriological and sanitary-hygienic laboratories.

**Program components:**

№	Name of the discipline
<b>Compulsory discipline</b>	
1	Pedagogy and the art of teaching in high school
2	Clinical pharmacology
3	Jurisprudence, medical law
4	Labor protection and civil protection

5	Clinical evaluation of laboratory research
6	Proof of medicine. Laboratory Standards
7	Forensic Medicine
8	Clinical pathology
9	Biochemistry of pathological processes
10	Clinical immunology and allergology
11	Clinical genetics
12	Cytological diagnostics
13	Sanitary-hygienic examination
<b>Elective disciplines</b>	
14	Molecular Genetics and Cytogenetics
15	Monitoring of medicinal products
16	Reproductive medicine
17	Diseases of civilization
18	Quality management system for laboratory research
19	Methodology of research work
20	Management in laboratory medicine. Marketing of medical services
21	Health Economics.
22	Medical statistics
23	Proof of medicine as the basis of state policy
24	Selected questions of enzymology and vitamins
25	Quality control of laboratory immunological research
<b>Practical training</b>	
26	Pre-diploma practice in specialized laboratories
<b>Graduates certification</b>	
27	Licensed Integrated Exam "Step 2"
28	Public defense of qualification work

### **Employment and competitive advantage of graduates of the program**

Graduate: Master of specialty 224 Technologies of medical diagnostics and treatment are able to perform the professional works specified in DK 003-2010:

- 2229.2 Doctor-laboratory assistant

May take up an appropriate position:

- Doctor-laboratory assistant
- Doctor-laboratory assistant in clinical biochemistry;
- Doctor-laboratory geneticist;
- Doctor-laboratory hygienist;
- Doctor-laboratory hygienist on the study of physical environmental factors;
- Doctor-laboratory hygienist on the study of chemical environmental factors;
- Doctor-laboratory immunologist.

Postgraduate from an educational program in the specialty "Technologies of Medical Diagnosis and Treatment", the Master may apply to internship programs where training is provided for educational programs of a certain specialization of a doctor-laboratory assistant.

At the end of internship, a laboratory technician can obtain a third (educational-scientific) level - Ph.D.

Post graduate education is carried out in accordance with current requirements, depending on the sphere of activity.

### **Program learning outcomes**

The Master of Laboratory Medicine must be able to apply professional knowledge; to formulate ideas, concepts for the purpose of using academic or professional orientation; find a solution in professional activity, have sufficient competence in methods of independent research, be able to interpret their results; owning and applying knowledge and skills of general and professional training in solving specialized tasks; to analyze the results of investigations of the morphological and functional state of the organism and the environment, to evaluate the significance of the indicators, to argue the conclusions and to identify the connections between modern concepts in the organization of the management process at a stage of professional activity; the ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population; demonstrate the deepening of basic knowledge through self-education, demonstrate the ability to present and evaluate their own experience and analyze and apply colleagues' experience, demonstrate the ability to share experiences with other professionals; Provide advisory services related to professional activities. To fulfill the requirements of the job description, self-improvement; to provide urgent pre-hospital care in all circumstances, using knowledge of the person, its organs and systems, observing the relevant ethical and legal standards, by making a well-founded decision; to identify, generalize and solve problems that arise in the process of professional activity and form a sense of responsibility for the work performed; to adhere to the requirements of ethics, bioethics and deontology in their professional activities; to apply diagnostic methods for measuring structural changes and disturbed functions of an organism, to interpret the received information, demonstrating evidence-based decision-making; perform and use laboratory research methods for diagnosis of diseases, determination of severity, period and duration of illness, prognosis, control over treatment and its results; the ability to carry out activities on the organization, integration of provision of laboratory assistance to the population and marketing of laboratory services; coordinate, modify and combine different research methods to perform typical and non-typical professional tasks; To carry out precisely and qualitatively laboratory investigations, to improve methods of conducting them, to ensure the quality of clinical laboratory research, the reliability and unity of the results and to teach others.