

## SPECIALITY TRAINING PROGRAMME FOR LABORATORY MEDICINE

Title of the residency study programme	State code
LABORATORY MEDICINE	733A30072

Academic awarding institution	Language
Lithuanian University of Health Sciences, Medical Academy, Department of Laboratory Medicine, A. Mickevičiaus g. 2, LT-44307 Kaunas, Lithuania	Lithuanian

Kind of studies	Cycle of studies	Level of qualification according to Lithuanian Qualification Structure (LQS)
University studies	Non-degree studies	7 <sup>th</sup> level

Mode of the studies and length in years	Volume of the programme in ECTS credits	Total amount of student work	Formal teaching and practice hours	Independent self-direct learning hours
Full-time studies, 4 years	264	7040	6160	880

Area of studies	Main field of the study programme	Parallel study programme (if available)
Biomedical sciences	Medicine	–

Professional qualification awarded
Laboratory Medicine Physician

Study programme director	Director's contact information
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Institution of accreditation	Accreditation valid until
Centre for Quality Assessment in Higher Education	2014 year

Aim of the residency study programme
To educate laboratory medicine physician, specialist-personality with critical and modern thinking, with scientific and professional competency in the field of laboratory medicine, personality who is able to solve complex problems, to make science innovations and to work effectively in the interdisciplinary teams in the practical and research fields with circumstances which lack detailed information.

Programme profile		
Disciplines/subject areas	Orientation of the programme	Distinctive features of the residency study programme
Programme is composed of obligatory and optional courses (cycles) which include theory, practice and individual work. Study programme courses are created for developing abilities to obtain the knowledge and practical skills mastery for specialist, who is able to perform laboratory tests, to evaluate and to interpret laboratory tests results in conjunction with full methodological and clinical considerations, to provide professional consultations in laboratory medicine to clinicians or to other persons without medical knowledges. Programme structure: courses from different fields of laboratory	This study programme is polyvalent with an applied orientation to practical activity and developing abilities for scientific research work, providing professional qualification of Laboratory Medicine Physician.	The study programme has been prepared on the basis of Republic of Lithuania legislation, Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications and Strategic plan of the section Laboratory Medicine/Medical Biopathology of the UEMS 2011-2012, V2.0 (Oct 15, 2011). Programme integrates theoretical studies and practical studies from the first study year. Practical skills and theoretical knowledge are obtained under the guidance of Lithuanian University of Health Sciences (LUHS) professors – residency basis specialists. Hospital of LUHS Kaunas Clinics is accredited residency basis for this study programme. Distinctive feature of study basis is concentration of different pathologies and

<p>medicine (laboratory haematology, clinical chemistry, general cytology, immunology, microbiology, genetics and etc.).</p>		<p>specialists with high experience in diseases diagnosis and treatment at the same institution.</p> <p>Scientific research skills are obtained during research work. There is an opportunity to accomplish part of studies (up to one year) in accredited clinics of different countries.</p> <p>The polyvalent study programme enables graduates to choose desired field of laboratory medicine for future employment.</p>
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<b>Admission requirements</b>	<b>Recognition of previous learning</b>
<p>Master degree in medicine and medical doctor professional qualification are obligatory. The applicants for admission must pass general competition. Competitive score structure is specified in the Rules for entrance to the LUHS residency programs. The main components of competitive score are: the average assessment of all subjects, studied during integral studies, final exam assessment, clinical medicine practice assessment, student's scientific activities assessment (appointed by Student Science Association), motivational interview assessment.</p> <p>Motivational interviews take place according to the schedule set in advance. Motivation Committee is composed of academic staff of Department of Laboratory Medicine and residents representatives. Scientific activities in the field of Laboratory medicine as well as qualities of human being are evaluated. Competition is public and takes place separately to every residency study programme in two stages (main and additional). Second or additional stage can be organised if free places are still available.</p>	<p>Results of previous studies are accepted individually, taking into account the developed competencies and goals that correspond to "Laboratory Medicine" residency study programme. The guidance of procedures are set and supervised by Senate of LUHS.</p>

<b>Access to further education</b>
<p>Third cycle (doctoral) degree studies may be an option (up to 10% of programme graduates are able to choose to proceed to PhD).</p>

<b>Access to professional activities (employability)</b>
<p>Graduates of the study programme will be able to work as Laboratory Medicine Physicians in public and private health care institutions, which have a license to provide laboratory medicine services, and will be able to work in non-clinical industrial or research laboratories.</p> <p>License of Laboratory Medicine Physician is provided by the State Health Care Accreditation Agency under the Ministry of Health of the Republic of Lithuania, after submitting diploma of completed medical studies programme, internship certificate and certificate of completed residency studies programme.</p> <p>Graduates of the study programme will be able to do the research and/or pedagogical work.</p> <p>The certificate of completed Laboratory Medicine residency studies and the license to provide laboratory medicine services are recognised by EU countries.</p>

<b>Learning and teaching approaches</b>	<b>Methods of assessment (of learning achievements)</b>
<p>Various teaching and studying methods are applied: lectures, seminars, consultations, group discussions, practical work in the laboratories of different specialisation, doctor-resident's every-day activity logbook writing, preparation of thesis, oral and/or visual their presentation in scientific-practical conferences and/or postgraduate training courses and etc.</p>	<p>Resident's assessment is done by checking doctor-resident's logbook notes about his/her participation in the lectures, his/her activities in seminars, consultations, group discussions.</p> <p>To pass a course the doctor-resident must complete not less than 75% of classes (formal teaching and practice hours) for the entire term. Individual schedule could be made for completion of missed classes.</p> <p>Assessment of visual presentation is done once during the course unit (according to approved schedule of seminars). Evaluation of presentation of individual work is based on specified evaluation criteria – quality of the presented material, clarity of ideas and argumentation, quality of introduction and conclusions, management of questions, time management, literature resources, ability to understand specialised questions in research and professional fields, quality of research speech. Every</p>

	<p>criterion has its own value. Final mark of presentation is a sum of criteria values.</p> <p>Resident have exam (practical and theoretical parts) on the last day of the course unit. Practical part includes practical task and questions (to plan laboratory assessment, to perform laboratory tests, to evaluate and to interpret laboratory tests results). Theoretical part includes 4 questions in written form. Each task/question is evaluated in 10-point grading scale. Final exam mark is an average of the individual questions marks.</p> <p>Cumulative grade formula is applied for cumulative assessment: 50% of presentation mark and 50% of exam mark.</p>
<p>Skills and competences are acquired via doctor-resident's work in different laboratories of Hospital of LUHS Kaunas Clinics, via participation in daily and weekly meetings, via consultation services, via collaboration with clinicians and specialists from other departments.</p>	<p>Resident's assessment is done by checking doctor-resident's logbook notes about his/her daily practical work, evaluation of his/her performance of lab tests, their interpretation.</p> <p>Verbal communication is used for formative assessment in order to map/monitor learning progress during a course, to provide ongoing feedback to resident, to provide information on progress, to identify and to address fields that require further development; to provide information to teacher for planning and correction of teaching process. Inscriptions about formative assessment are made in doctor-resident's logbook.</p> <p>Staff of the department (physicians, technicians and other employees) evaluates resident's abilities to work in a team, politeness, discreetness, collegiality, subordination and etc. at the end of every course (in written questionnaire or free format).</p> <p>The resident has a possibility to choose a research work topic. Preliminary theme of research work, subject and methods are discussed and approved by the department. The results of the research work should be presented in scientific conferences or otherwise.</p> <p>To complete Study programme the doctor-resident must pass the final exam which includes practical (one practical task to perform lab test, to interpret results, to explain his/her own actions) and theoretical (4 questions in written form) parts.</p>

General competencies (knowledge, abilities, values and attitudes)		Outcomes (results) of residency study program	
		After completion of study programme graduate:	
1.	Professional activities	1.1	Will be able to collect, analyse and summarize data and information, to react appropriately to the changes of situations.
2.	Professional activities	1.2	Will be able to work in team, to achieve common goals in the fields of laboratory medicine, to organize team work, to motivate team members for collaborative activities, to create and to plan work tasks for team members, to plan the work time, materials and expenses.
3.	The doctor as an expert	1.3	Will be able to communicate and to share professional competence and practical experience in the fields of professional practice, formal and non-formal education.
4.	Professional attributes	2.7	Will be able to follow the requirements of medical ethics and deontology, critically evaluate the extent of his/her own competence and consequences of activity and responsibility in regard on ethical and social issues.

Subject-specific competences (knowledge, abilities, values and attitudes)		Aims (results) of residency study program	
5.	Organization of laboratories work; quality system management in accordance to LR, ISO EU legislation. Document management.	2.1	Will be able to organize and manage laboratory work in accordance to regulative legislation and requirements for quality management system.
6.	Participation in health perservation, promoting and encouraging a healthy lifestyle.	2.2	Will be able to evaluate a risk for employees and patients health; will be able to choose and to use proper means for lowering of the risk; will be able to apply procedures for control of infectious diseases and professional risk factors. To choose and implement proper preventive actions for risk control.
7.	Planning, organisation and implementation of quality assesment procedures, evaluation and summarising of quality assesment results.	2.3	Will be able to organise and to implement in practice quality assessment schemes for laboratory tests.
8.	Laboratory diagnostics and differential diagnosis of patients diseases, laboratory monitoring of treatment effectiveness. Planning of diagnostics – choise of rational test spectrum and optimal biological specimens for diagnosis, consultations of the physicians about laboratory testing possibilities and procedures. Analysis of meaningfulness, economical reasonability and and timeliness of laboratory testing.	2.4	Will be able to choose laboratory tests, appropriate for specific clinical situations; will be able to choose optimal biological specimens for testing; will be able to perform laboratory procedures required for sample collection, preservation, pre-treatment and keeping for subsequent analysis; will be able to provide consultations related to above mentioned procedures.
9.	Rational choise of laboratory tests, laboratory equipment; performance of laboratory tests using manual and automated methodologies; implementation, verification and validation of new tests and methodologies.	2.5	Will be able to choose and to perform laboratory tests, appropriate for specific clinical situations, to use most optimal methodologies and equipment required for laboratory testing; will be able to carry out laboratory tests in accordance of legislation, approved laboratory procedures; will be able to implement, verify and validate new tests and methodologies.
10.	Evaluation and interpretation of laboratory tests results in conjunction with full methodological and clinical considerations. Consultations of the clinicians (or other persons without medical knowledges) related to disease diagnostics, treatment monitoring and prognosis.	2.6	Will be able to to evaluate and to interpret laboratory tests results in conjunction with full methodological and clinical considerations; will be able to provide professional consultations for clinicians or for other persons without medical knowledges related to tests results interpretation.