



Education in Laboratory Medicine in Lithuania

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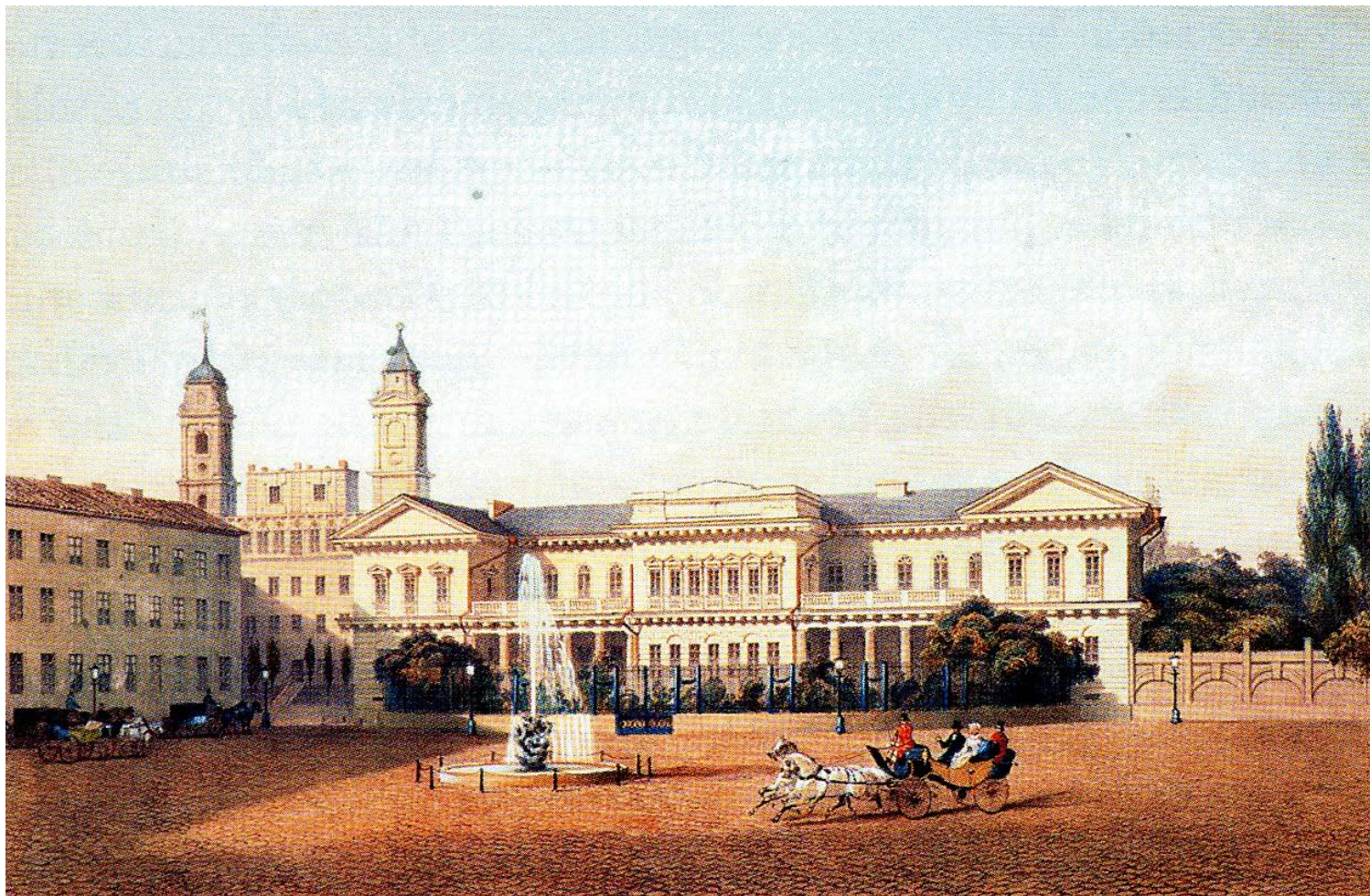
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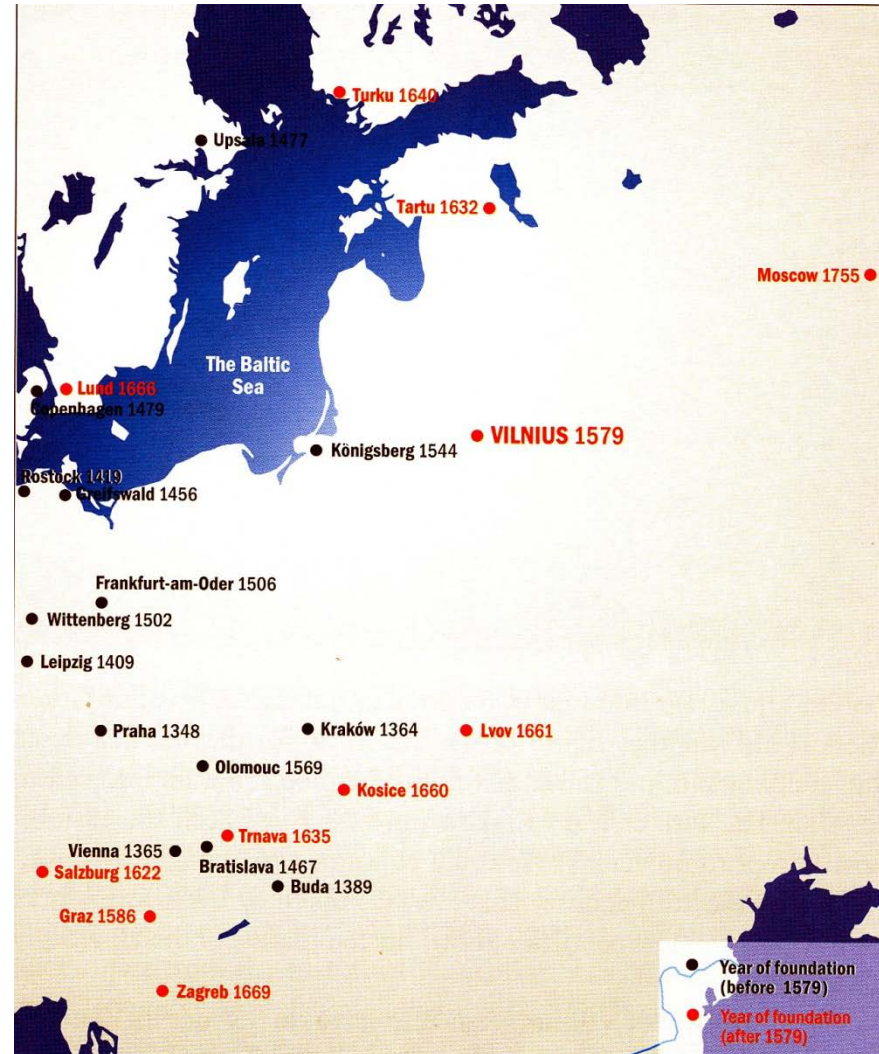
24-04-2015, Prague



Vilnius University



Foundation of European Universities





Vilnius University





Faculty of Medicine



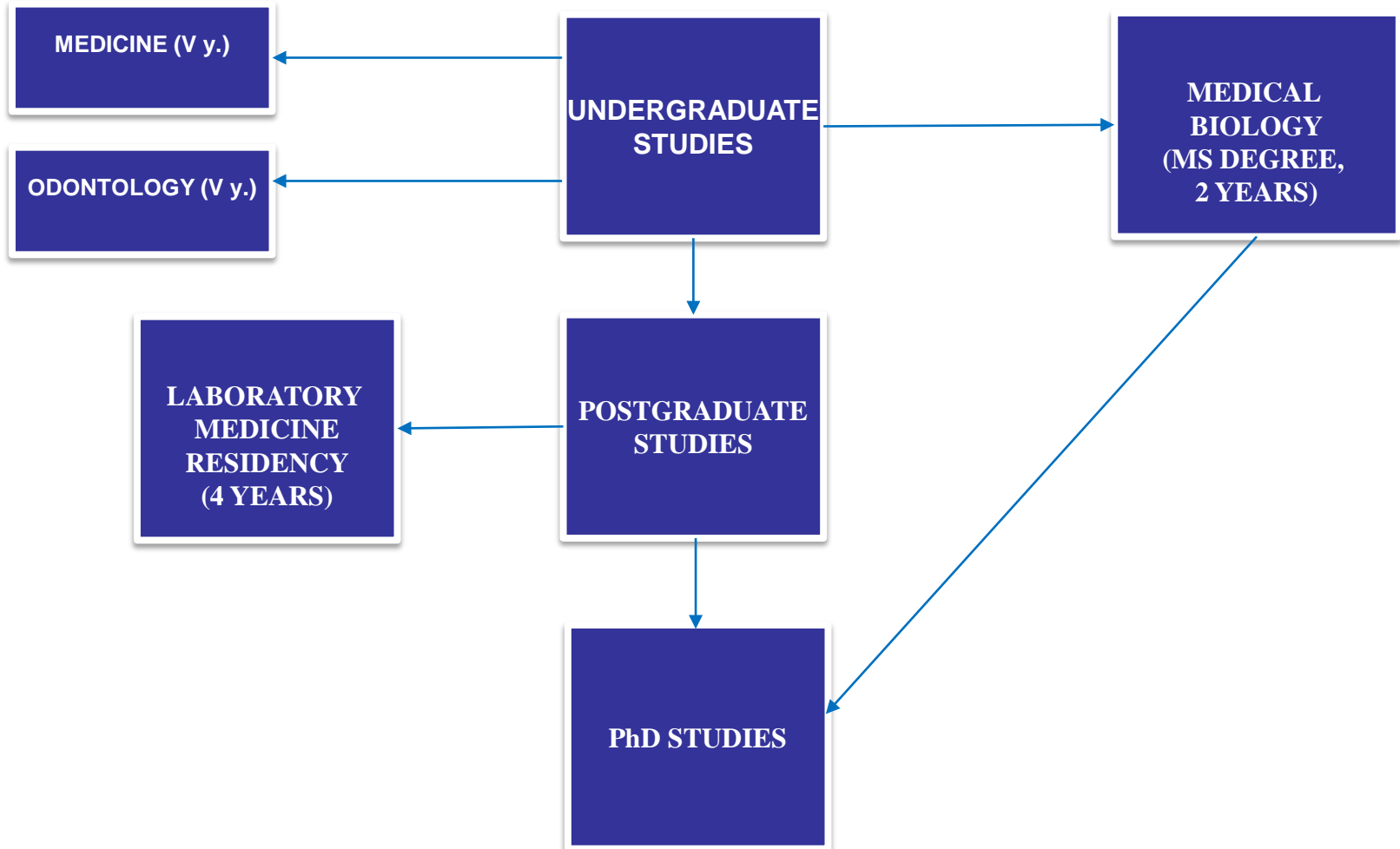


Clinical chemistry at Vilnius University – historical facts



- Department of Physiology and Physiological chemistry was founded in 1945 and restructured several times later. Currently it is a Department of Physiology, Biochemistry, Microbiology and Laboratory Medicine
- Postgraduate training course in Clinical chemistry and Laboratory Medicine was introduced in 1967. The duration of postgraduate training varied significantly depending on different external and internal factors.

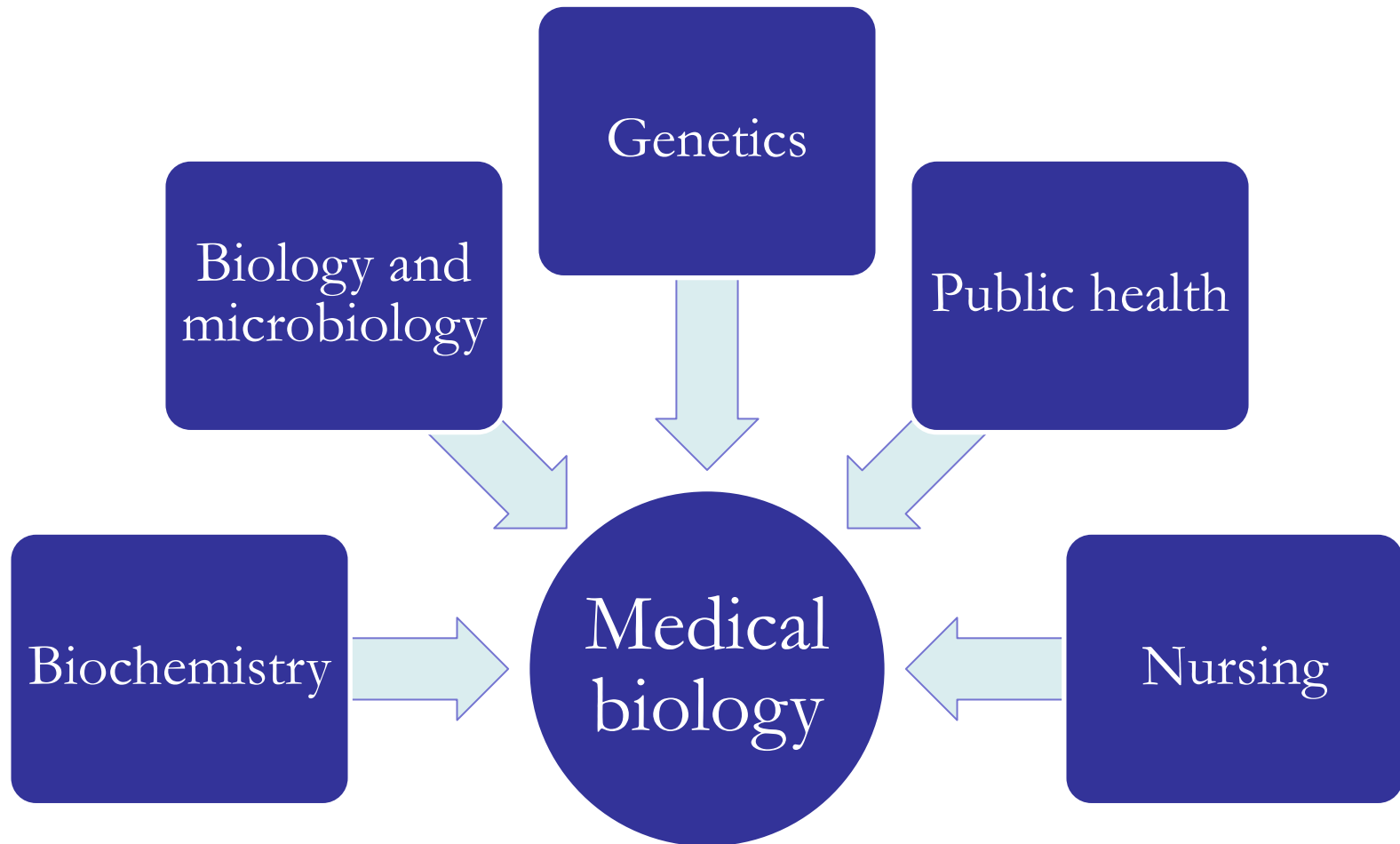
Present status of education in Laboratory Medicine





Undergraduate studies

- Integrated studies:
- Medicine: the overall study process lasts 6 years and Laboratory Medicine course is studied in the 5th year; it consists of 74 hours of lectures, seminars and practical training.
- Odontology: the studies are covered in 5 years; Laboratory Medicine course is in the 5th year and consists of 24 hours of lectures and seminars.





An accredited 2 years (120 credits) Master degree studies



The 1st year study programs:

- Pathological physiology
- Pathological anatomy
- Biochemistry of hormones and vitamins
- Molecular biology, human biology and genetics
- Human molecular genetic and inherited metabolic disorders
- Biotechnology and informatics in biomedicine
- Medical microbiology and laboratory diagnostics of infectious diseases
- Basics of immunology and cancer biology
- Research work



An accredited 2 years (120 credits) Master degree studies



The 2nd
year study
programs:

- Clinical chemistry
- Laboratory hematology
- Biochemistry and cytology of body tissues and fluids
- Clinical immunology and immunoematology
- Research work
- Laboratory practice
- Work on Master degree thesis

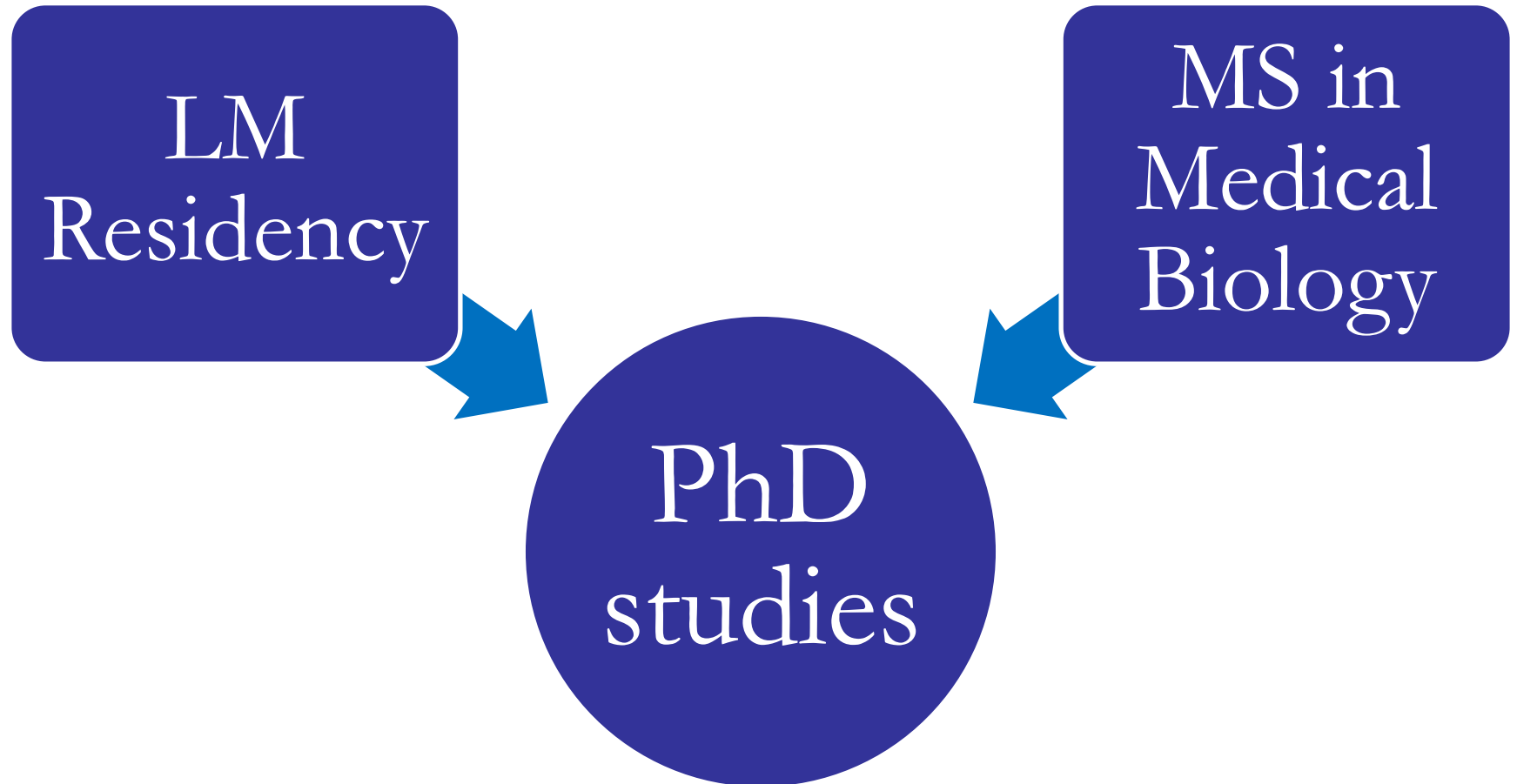


An accredited 2 years (120 credits) Master degree studies



- Graduation of the program is organized by defense of experimental thesis and/or exam on Laboratory Medicine.
- At the completion of the training program and exams graduates are granted with Master degree in Medical Biology and **are eligible to practice in laboratories of** biomedical research and **the health care system.**
- Exceptionally well qualified individuals with Master degree are being attracted for PhD studies.

Postgraduate studies





Laboratory medicine physician residency program curriculum



1st study year includes:

Introduction to laboratory medicine

Introduction to biotechnology

Mathematical statistics and informatics in biomedicine

Clinical chemistry



Laboratory medicine physician residency program curriculum



2nd study year includes:

Laboratory hematology

Urinalysis and body fluid cytology

Cytopathology

Laboratory diagnostics of inherited diseases



Laboratory medicine physician residency program curriculum



3rd study year includes:

Clinical immunology

Clinical microbiology and virology

Human parasitic diseases and their laboratory diagnostics

Laboratory diagnostics of sexually transmitted diseases



Laboratory medicine physician residency program curriculum



4th study year includes:

Transfusion medicine service

Rotation of residents in other clinics (Endocrinology, Cardiology, Dermatovenereology, Gastroenterology, Clinical Hematology, Rheumatology, Nephrology)

Optional courses (Methods in Clinical Chemistry, Analytical Cytology, Autoantibodies: clinical significance and diagnostics, Pathogenesis of atherosclerosis and laboratory diagnostics of cardiovascular diseases, Quality Assurance and Laboratory Management, Cancer biology)

In-depth specialization in the chosen laboratory sub-discipline.



Laboratory medicine physician residency program curriculum



- The training ends with a state exam and gives professional qualification “Laboratory Medicine Physician”
- Laboratory Medicine Physicians are being registered and provided with the License by the State Health Care Accreditation Agency under the Ministry of Health.

MD and MS similarities

MD

- Legally recognized
- Trained as polyvalent specialist
- Can lead the lab

MS

- Legally recognized
- Trained as polyvalent specialist
- Can lead the lab

MD and MS differences

MD

- 4 years postgraduate training (total 10 years)
- activities based on professional title (consultations for patients, prescription of medicine)

MS

- 6 years undergraduate training before MS (2 y. in laboratory medicine)
- Optional 4 years PhD studies



PhD studies



The duration of regular doctoral studies is 4 years.

The total program of doctoral studies - at least 30 credits:

- Clinical Chemistry – 8 credits
- Laboratory Hematology – 6 credits
- Clinical Immunology – 5 credits
- Medical genetics – 5 credits
- Medical Microbiology – 5 credits
- Biomedical statistics – 5 credits
- Etc.



PhD studies

The recommended size of a dissertation is from 4 to 10 printer's sheets (1 printer's sheet equals to 40 000 characters).

A dissertation must contain:

- a defined research goal and resolution of tasks,
- indication of the novelty of the research work,
- a survey of the relevant research carried in the world and the research methods employed,
- an analysis of the results obtained, their reliability and relation with the data of other researchers,
- conclusions.



Duration of the undergraduate and postgraduate training

Medicine
6 years

Residency
4 years

Total
10 years



Duration of the undergraduate and postgraduate training

MS in Medical
biology
6 years (4+2)

PhD studies
4 years

Total
10 years

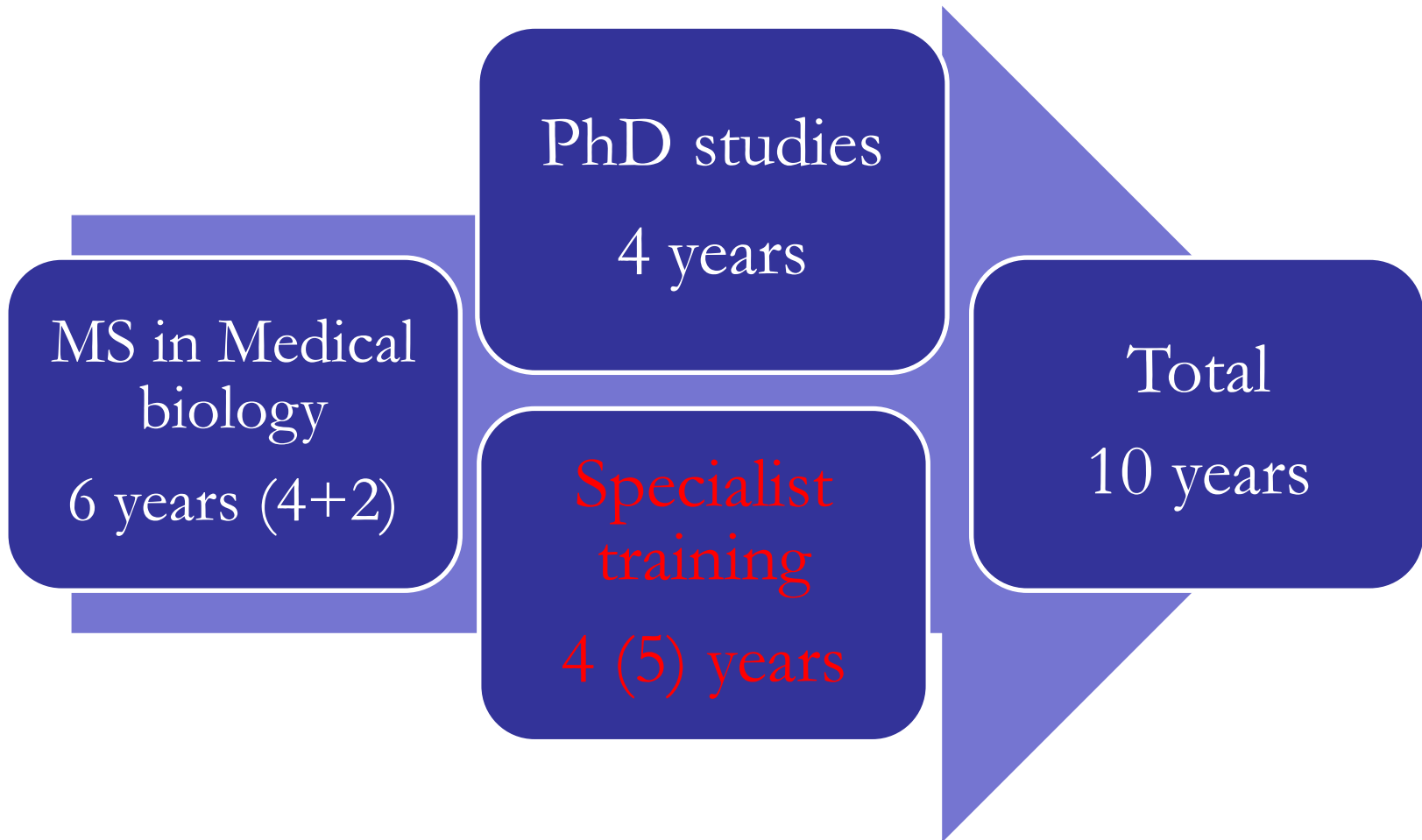


Work on EU Directive 2013/55/EU



- Working group on recognition of Professional Qualifications formed by the Ministry of Health in 2014
- Members of the group are from Lithuanian Society of Laboratory Medicine, Universities, Ministry of Health, etc.

Proposed duration of the undergraduate and postgraduate training





Work on EU Directive 2013/55/EU



- Debates still continue (limited progress achieved)
- Major problems:
 - limited resources (financial and training facilities);
 - responsibilities and functions of MS after graduation;
 - selection of graduates for Specialist training (only MS in Medical biology or other Sciences?)
 - limited willingness?



Work on EU Directive 2013/55/EU: alternative approach



- To leave the present status:
 - MS
 - PhDs
- Attract more MS to PhD studies



Thank you for your attention!

