

*Pharmacy education & training in*

# LATVIA



Lifelong Learning Programme

**PHARMINE**  
*Pharmacy Education  
in Europe*

PHARMINE (PHARMacy education IN Europe) is a project funded by the European Commission (LLL programme, Erasmus). Its aims and objectives are to survey the present state of pharmacy education and training in Europe, and on the basis of this survey, formulate recommendations for new competence curricula for pharmacy education and training in the EU. A model for pharmacy education and training for candidate member states and other countries will be proposed. The opportunities for a quality assurance and accreditation scheme for EU pharmacy courses will be investigated.

PHARMINE will take into account two important issues, (i) the EU directive 2005/36/EC on the recognition of professional qualification, and, (ii) the Bologna declaration. PHARMINE will focus both on recommendations for core education and training and for activities such as industrial and hospital pharmacy.

The PHARMINE consortium consists of universities which are members of the European Association of Faculties of Pharmacy (EAFP) and EU partner associations representing community, hospital or industrial pharmacy, together with the European Pharmacy Students' Association and other interested bodies.

In order to reach the objectives of the PHARMINE project, a work-plan was set up and divided into 7 work-packages (WP).

The aims and objectives of PHARMINE WP7 are to:

1. Survey European higher education institutions (HEIs)
2. Produce a databank of pharmacy education and training courses in Europe leading to core pharmacist qualifications and to qualifications required for industrial and hospital pharmacy
3. Survey to what extent the "Bologna" (based on the principles enumerated in the Bologna declaration) and the "Sectoral profession" (based on 2005/36/EC) models for pharmacy education and training are compatible.

PHARMINE WP7 will produce several documents including a WP7 survey by country. **Such surveys are intended for the use of students and staff interested in mobility and/or contacts with the country in questions as well as educationalists working on pharmacy education and training in Europe.**

(see: [The PHARMINE paradigm.pdf](#))

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## Summary.

Community pharmacies in Latvia sell Rx and OTC medicines, and provide consulting and diagnostic services.

Pharmacists study five years at one of two universities – the University of Latvia (UL) and Riga Stradins University (RSU).

At UL the program is based on a B+M, 3+2 years system and graduates receive a health sciences bachelor degree in pharmacy and health sciences master degree in pharmacy. At RSU after a seamless 5-years' program graduates receive pharmacist's degree.

After three years of practice, university graduates receive a pharmacist's certificate. Pharmacists may own and manage community pharmacies or work at community and hospital pharmacies. The Pharmacy Law of Latvia states that new pharmacies may be opened only by pharmacists but in practice new pharmacies are not being opened and the majority of existing pharmacies now belong to pharmacy chains. Recent amendments of Pharmacy Law determine that a general pharmacy may be established in the form of a pharmacist's practice, a joint practice (a Civil Law company) or a capital company. If the owner is not a pharmacist, he/she must to conclude a contract with a certified pharmacist providing pharmaceutical care. If the pharmacy takes the form of a capital company either a pharmacist must be a shareholder of not less than 50% of the capital, or certified pharmacists must compose not less than half of the board members.

At the Riga 1<sup>st</sup> college assistant pharmacists study 2.5 years and are employed at community or hospital pharmacies. Assistant pharmacists are not allowed to manage a pharmacy.

The pharmacy curriculum is organized according to the EU directive 2005/36/EC and has the required courses in medical, biological and pharmaceutical subjects, as well as courses in physics, languages, and social science. The bachelor thesis lasts 2.5 months or 15 ECTS, and the master degree thesis 5 months or 30 ECTS. There is a six months' traineeship in a pharmacy at the master level, following the end of theoretical courses.

Individual specialization is possible during the bachelor and master degree theses by choosing a specific laboratory for a thesis in an appropriate topic, and also by choosing the appropriate elective courses. There is no formal specialization. Specialization is not obligatory, and students may choose more practical pharmacy or clinical courses. Pharmacists are primarily employed in community pharmacies.

## Introduction.

### Statistics for Latvia.

Total population: 2,289,000

Gross national income per capita (PPP international \$): 14,840

Life expectancy at birth m/f (years): 65/76

Healthy life expectancy at birth m/f (years, 2003): 58/68

Probability of dying under five (per 1 000 live births): 9

Probability of dying between 15 and 60 years m/f (per 1 000 population): 323/123

Total expenditure on health per capita (Intl \$, 2006): 974

Total expenditure on health as % of GDP (2006): 6

Figures are for 2006 unless indicated. Source: [World Health Statistics 2008](#)

See also: <http://www.who.int/countries/lva/en/>

<http://www.who.int/whosis/en/index.html>

### Highlights on pharmacy in Latvia.

#### **Current challenges**

The main challenges of pharmaceutical system in Latvia are listed here.

- Continuous growth of pharmaceutical expenditure (PE) and limited public resources to cover the growth.
- Pharmaceutical products are marketed at EU prices, and at the same time GDP per capita is 6-7 times less than the EU average, thus increasing affordability and equity problems.
- Analysis of the cost-effectiveness of newly introduced pharmaceuticals in cases in which the new products fail to prove therapeutic added value, but the treatment costs are considerably higher than currently available therapies.
- There are difficulties in assessing the relative effectiveness of new pharmaceutical products using data from clinical trials, because:
  - there is a lack of point-by-point comparisons in clinical trials;
  - follow-up is insufficiently detailed, leading to frequent use of modelling techniques based on assumptions or retrospective data;
  - “surrogate outcomes” used in clinical trials do not provide evidence on improvement in health status.
- There have been cases of irrational use of pharmaceuticals, based on the marketing activities of pharmaceutical companies.
- Limited independent information is available for health care professionals and patients.

## **Future developments**

Future developments in long-term pharmaceutical policy in Latvia (under implementation) include:

- Further development of reference pricing system;
- Further development of economic evaluation of pharmaceuticals and broadening the scope to the hospital system, applying economic evaluation to the pharmaceuticals used in hospitals;
- Promotion of rational use of pharmaceuticals;
- Providing independent and unbiased information on therapeutic value and cost-effectiveness of pharmaceuticals to the public and to health care professionals;
- Participation in international collaboration on assessment of the relative effectiveness of pharmaceuticals.

See country file of PPRI Pharma Profile, for Latvia at:

[http://ppri.oebig.at/Downloads/Results/Latvia\\_PPRI\\_2008.pdf](http://ppri.oebig.at/Downloads/Results/Latvia_PPRI_2008.pdf)



## Chapter 1. Organization of the activities of pharmacists, professional bodies

	Y/N, number or %	Comments.
<b>Community pharmacy</b>		
Number of community pharmacists	1624	In August, 2010 there were registered 1624 pharmacists and 1481 assistant pharmacists. Register of Pharmacists Society of Latvia ( <a href="http://www.farmaceutubiedriba.lv">www.farmaceutubiedriba.lv</a> ) - 09 August, 2010.
Number of community pharmacies	810	There were 810 licensed pharmacies in Latvia on 01.01.2009. Pharmacy department of Ministry of Health: <a href="http://www.farmacija-mic.lv">www.farmacija-mic.lv</a> Register of community pharmacies is available at: <a href="http://www.zva.gov.lv/doc_upl/A-02032010.pdf">http://www.zva.gov.lv/doc_upl/A-02032010.pdf</a>  There are 1.9 pharmacists per pharmacy. There are 2800 customers per pharmacy.
Competences and roles of community pharmacists		Competencies of community pharmacists: <ul style="list-style-type: none"> <li>a. Supplying prescription medicines</li> <li>b. Managing medicines for some ailments</li> <li>c. Giving advice on medicines</li> <li>d. Screening services (cholesterol, glucose, blood pressure, etc.).</li> </ul>
Is ownership of a community pharmacy limited to pharmacists?	No	Currently ownership is not limited to pharmacists.  According to The PharmacyLaw a pharmacy may be established in the form of a pharmacist's practice, a joint practice (a Civil Law company) or a capital company. In respect of the performance of pharmaceutical care in a pharmacy owned by a local government or another person who is not a pharmacist, the respective person shall enter into a contract with a certified pharmacist. An in-patient medical treatment institution or a daytime hospital may open a closed type of pharmacy.  <b>A pharmacy in the form of a capital company may operate if at least one of the following conditions has been complied with:</b>  1) no less than 50 per cent of the shares in the capital company are owned by a pharmacist;  2) no less than one half of the members of the management board (executive body) of the capital company are certified pharmacists.  (see attached changes in separate file). <a href="http://www.likumi.lv">www.likumi.lv</a> , <a href="http://www.eahp.eu/content/download/24963/162601/.../CountryFocus40-41.pdf">www.eahp.eu/content/download/24963/162601/.../CountryFocus40-41.pdf</a>
Rules governing the geographical distribution of community pharmacies?	Yes	1 pharmacy per 2000 inhabitants; at least 500 m between each pharmacy that has extemporaneous dispensing and/or a twenty-four hours on-duty pharmacy service.  An affiliate cannot be nearer than 5 km from the main pharmacy. <a href="http://www.likumi.lv/doc.php?id=60589&amp;from=off">http://www.likumi.lv/doc.php?id=60589&amp;from=off</a>
Are drugs and healthcare products available to the general public by channels	No	It is possible to buy food supplements, hygiene products, medical devices (in special shops) outside of pharmacies. All medicines, bandages, specific plasters (silicon etc.) are available only in pharmacies.

other than pharmacies?		There is one e-pharmacy in Latvia: <a href="http://www.pilsapteika.lv/">http://www.pilsapteika.lv/</a>
Are persons other than pharmacists involved in community practice?	Yes	Assistant pharmacists. College education; in Latvia – regulated profession; diploma governed with Second General System Directive 92/51/EEC.
Their titles and number(s)	1481	Assistant pharmacists Pharmacy assistants have a college education. Theirs is a regulated profession with a diploma based on Council Directive 92/51/EEC of 18 June 1992 on a second general system for the recognition of professional education and training to supplement Directive 89/48/EEC. Pharmacy students, medical students, nurses who have not completed their HEI course, can be employed as <u>technicians</u> , i.e. supportive staff at pharmacy. The technicians are not registered and their number is not known.
Organisation providing and validating the E&T		Assistant pharmacists are trained at Riga 1 <sup>st</sup> Medical college. They study for 2.5 years. It is the only HEI offering the diploma of assistant pharmacist. All programs are recognized by the Latvian Accreditation Centre (Higher Education Quality Evaluation Centre (HEQEC)) and evaluated by national and foreign experts.  The accredited programs are listed at: <a href="http://www.aiknc.lv/">http://www.aiknc.lv/</a> <a href="http://www.aiknc.lv/lv/prog_view.php?id=5517">http://www.aiknc.lv/lv/prog_view.php?id=5517</a>
Subject areas		CHEMISCI 240 hours PHYSMATH 0 BIOLSCI 274 hours PHARMTECH 440 hours MEDISCI 840 hours LAWSOC 200 hours GENERIC 760 (including practice in pharmacy) ELECTIVE 200 hours  The average traineeship lasts 1686 hours with theoretical courses standing at 1268h, and personal work at 1046 h.  The program is available at: <a href="http://www.aiknc.lv/lv/prog_view.php?id=5517">http://www.aiknc.lv/lv/prog_view.php?id=5517</a>
Competences and roles		Extemporaneous drug preparation, Dispensing of non-prescription medicines under the guidance of a pharmacist Dispensing of hygiene and cosmetic products.
<b>Hospital pharmacy</b>		
Does such a function exist?	Yes	There are approximately 38 hospital pharmacies in Latvia.  Pharmacists working in hospitals have the same status as those working in community pharmacies. In general, hospital pharmacists do not have a special education but are simply pharmacists who work at hospital pharmacies.  Only 2 or 3 clinical pharmacists are at present working in hospital pharmacies. They receive a special education and are graduates of the clinical pharmacy master degree program at Riga Stradins University.
Number of hospital pharmacists	94	Pharmacists working at hospital pharmacies and those working at community pharmacies are registered in one single register. All together there are approximately 1516 registered pharmacists and among these 94 work in hospital pharmacies.

		There is a specific section for Hospital Pharmacists within the Latvian Pharmacists` Society, and approximately 140 persons are members of this section: 94 pharmacists and 46 pharmacy assistants. The Latvian Pharmacists` Society is a member of EAHP.
Competences and roles of hospital pharmacists		<ul style="list-style-type: none"> <li>• Purchasing of drugs and medical material</li> <li>• Unit-dose drug distribution</li> <li>• Production of patient-specific medicines (e.g. cytotoxic preparations)</li> </ul>
<b>Pharmaceutical and related industries</b>		
Number of companies with production, R&D and distribution	52	On 01.01.2009 approximately 100 representative offices of foreign drug manufacturers were registered in Latvia, together with 14 local drug manufacturers and 36 drug wholesalers in Latvia.  (State Agency of Medicines, <a href="http://www.zva.gov.lv">www.zva.gov.lv</a> ; <a href="http://www.farmacija-mic.lv">www.farmacija-mic.lv</a> )
Number of companies with production only	14	Approximately 14 local drug producers: see Latvian State Agency of Medicines: <a href="http://www.zva.gov.lv/index.php?setlang=en&amp;large=www.farmacija-mic.lv">http://www.zva.gov.lv/index.php?setlang=en&amp;large=www.farmacija-mic.lv</a>
Number of companies with distribution only	36	36 drug wholesalers, but the 5-6 larger companies have a licence to repack medicines or to do labelling according to GMP.
Number of companies producing generic drugs only	2	The biggest local generic producers are:  Grindex: <a href="http://www.grindex.lv/en">http://www.grindex.lv/en</a> Olainfarm: <a href="http://www.olainfarm.lv/eng/">http://www.olainfarm.lv/eng/</a> together with LMP: <a href="http://www.lmp.lv/eng/products.php">http://www.lmp.lv/eng/products.php</a> <a href="http://www.pharmidea.lv/en/home/">http://www.pharmidea.lv/en/home/</a> <a href="http://www.silvanols.lv/">http://www.silvanols.lv/</a> etc. Olainfarm and Grindex are also licensed to produce and export original medicines –by the State Agency of Medicines: <a href="http://www.zva.gov.lv">www.zva.gov.lv</a> ; <a href="http://www.farmacija-mic.lv">www.farmacija-mic.lv</a>
<b>Industrial pharmacy</b>		
Number of pharmacists working in industry	200-300	Approximately 200-300 pharmacists are working in industry but there are no statistics in Latvia as registration is not required. Industrial pharmacists are represented by the Industrial Pharmacists` Society (IPS) section of the Pharmacists Society of Latvia.  IPS is a member of EIPG (since 2007). At the moment (October, 2010) 69 pharmacists are members of IPS.
Competences and roles of industrial pharmacists		Industrial pharmacists are working together with health authorities in: <ul style="list-style-type: none"> <li>• drug laboratories</li> <li>• agencies (registration, expertise, etc.)</li> <li>• production (qualified person (QP), etc.)</li> <li>• representative offices</li> <li>• drug wholesalers (QP, responsible persons, etc.)</li> </ul> <p>Researchers with a doctoral degree working in drug laboratories are not included in the register of pharmacists and are not called industrial pharmacists.</p> <p>A pharmacy degree is not obligatory for employment in R&amp;D laboratories. Albeit some pharmacy graduates may work in preclinical research, but again they are not registered and certified pharmacists.</p>

		<p>Generally pharmacists in industry have one of the following posts:</p> <ol style="list-style-type: none"> <li>Pre-clinical drug evaluation (safety and efficacy)</li> <li>(exceptionally) clinical drug evaluation</li> <li>Marketing</li> <li>Distribution</li> <li>Medical devices</li> <li>Cosmetology</li> <li>Drug evaluation and registration (governmental and industrial)</li> </ol>
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#### Other sectors

Sectors in which pharmacists are employed		<p>An unknown number of pharmacists are employed by the national health authorities and in public sector agencies (e.g. the drug pricing agency working with compensated drug list, state agency of medicines working with expertise of medicine dossiers and registration, in veterinary and agriculture departments, in forensics, etc.).</p> <p>Others are employed in the private sector in different areas (laboratories, representative offices for foreign drug firms, medical journalism, etc.).</p> <p>Some are employed by the HEIs.</p>
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#### Roles of professional associations

Registration of pharmacists	Yes	<p>The Pharmacists' Society of Latvia or PhSL is the only professional organisation in Latvia and is responsible for registration of pharmacists and assistant pharmacists. The Latvian government also authorises the PhSL to perform certification and re-certification of pharmacists. This is obligatory for pharmacy managers but voluntary for other pharmacists.</p> <p>PhSL website: <a href="http://www.farmaceutubiedriba.lv">www.farmaceutubiedriba.lv</a></p>
Creation of community pharmacies and control of territorial distribution	No	<p>Creation of community pharmacies is under the responsibility of the licensing section of the State Agency of Medicines; territorial distribution of pharmacies is according to rules of Cabinet of Ministers, mentioned above, controlled by Health Inspectorate.</p>
Ethical and other aspects of professional conduct	Yes	<p>There is an Ethical Codex of pharmacists issued by PhSL. The society organises an Ethical Commission that maintains actions and their decision is irrevocable. PhSL also certifies pharmacists together with the informed authorities; for the pharmacy manager and owner this implies penalties. Sanctions are: instruction, notification or annulment of pharmacist certificate.</p>
Quality assurance and validation of HEI courses for pharmacists	Yes	<p>During program accreditation and re-accreditation by LATAK (Latvian National Accreditation Bureau) (standard EN ISO/IEC 17024:2003) an expert representative of Latvian Pharmacists Society is invited.</p> <p>The Latvian Pharmacists Society has an educational section.</p> <p>They collaborate with both universities – University of Latvia and Riga Stradins university.</p>

#### References

State Statistical Board: [www.vm.gov.lv](http://www.vm.gov.lv)  
Ministry of Health, laws and regulations: [www.likumi.lv/](http://www.likumi.lv/)  
Latvian Pharmacists Society: [www.farmaceutubiedriba.lv](http://www.farmaceutubiedriba.lv)  
Ministry of Education and Science: [www.izm.gov.lv](http://www.izm.gov.lv)  
State Agency of Medicines: [www.zva.gov.lv](http://www.zva.gov.lv)  
The Centre of health Economics: [www.vec.gov.lv](http://www.vec.gov.lv) (), etc.  
Medicine Information Centre MIC: [www.farmacija-mic.lv](http://www.farmacija-mic.lv)

## Chapter 2. Pharmacy HEIs, students and courses

	Y/N, number or %	Comments
<b>Total number of HEIs in Latvia</b>	3	Riga Stradins University (RSU) University of Latvia (UL)  (Riga Medical College No.1 (pharmacy assistants, see above))
Public	3	
<b>Organisation of HEIs</b>		
Independent faculty		RSU has a separate Faculty of Pharmacy
Attached to medicine		UL
Do HEIs offer B + M degrees?	Yes	UL: B + M. Albeit the master degree program in pharmacy is a continuation of the pharmacy bachelor program.  RSU: two courses are related to pharmacy <ol style="list-style-type: none"> <li>1. Professional study programme in Pharmacy (5 years). Following the professional programme students acquire a pharmacist's degree equivalent to a master's degree allowing them to work in a pharmacy</li> <li>2. Academic study programme for Master's degree in Health Care (subdivision - <i>clinical pharmacy</i>).</li> </ol>
Do HEIs offer an M. Pharm. after a B degree in another HEI?	Yes	UL: recognises pharmacy bachelor degrees obtained in other HEIs.  RSU: following the 2 years master degree programme in "Clinical Pharmacy" students with a pharmacist's degree from UL or RSU obtain a master's degree in pharmacy health care.
<b>University of Latvia (UL)</b>		
<b>Teaching staff</b>		
Number of teaching staff (Latvian nationals)	26	The Faculty of Medicine teaching staff is composed of 72 persons with 5 FT persons in pharmacy: Professor: 1 Assistant professors: 3 Lecturer: 1  Other members of the teaching staff in the pharmacy programme come from various other faculties (the medical department of the Faculty of Medicine, and from Chemistry, Biology, Physics, Economics, Modern Languages, etc.). Professors: 8 Associated professors: 13 Assistant: 1 Lecturers: 4
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	3 lecturers 50-60 as practice trainees	Pharmacists from community pharmacies, the Latvian State Health agency and from hospital pharmacy.  These 3 are invited lecturers for academic courses.  All certificated pharmacists from community or hospital pharmacies may act as tutors for pharmacy student trainees in pharmacy practice. Students have

		<p>a free choice of the pharmacy for their traineeship. A three-part agreement is then signed:</p> <ol style="list-style-type: none"> <li>1. Student</li> <li>2. Tutor / head of pharmacy</li> <li>3. Responsible person from UL</li> <li>4.</li> </ol> <p>Usually tutors for trainees are from the main pharmacies in the capital city of Riga.</p> <p>Approximately 50-60 certified pharmacists have been trainees for students during last six years.</p>
<b>Students</b>		
Number of places at entry following secondary school	15 places paid by the State budget	The number of State budget-financed places is limited but the number of student-financed places is not limited. Given the existing academic staff and installations a maximum of 50-60 students per year can be accommodated. Due to the present economical situation, however, a big decrease in the number of students is expected.
Number of applicants for entry	200	There are 6-9 Latvian applicants for one study place in pharmacy ( <a href="http://www.lu.lv">www.lu.lv</a> ). All study programmes are provided only in Latvian.
Graduates that become registered/professional pharmacists.	60-70%	In the Pharmacists register we have found approximately 60-70% of our graduates. Others are presumably not registered but this does not mean that they do not work in various fields of pharmacy.
<b>Entry requirements</b>		
Pharmacy-related, entrance examination	No	
Other form of entry requirement	Yes	Centralized examinations at secondary school in Latvian, chemistry, biology and foreign language. These (and other entrance examinations) are organized by the Ministry of Education and Science.
Is there a <i>numerus clausus</i> ?	No	The number accepted depends upon the capacity of the faculty (teaching staff, finances, laboratories etc.).
<b>Fees per year</b>		
For home students	2000 - 3000 €	
For EU MS students	2000 - 3000 €	
For non EU students	4000 €	
<b>Length of course</b>	<b>5 years</b>	<b>3+2</b>
<b>Specialization</b>		
Specialized courses?	Yes	Albeit not in industry or hospital pharmacy.
In which years?	Starting from 2nd	
In which specialisation (industry, hospital...)?		<p>In Latvia it is impossible to provide separate specialisation programmes. Only a few graduates find jobs in industry (1-2 persons per year). In hospital pharmacies graduates from both universities UL and RSU find employment.</p> <p>Pharmacists obtain the specific knowledge during life-long learning courses and practice.</p> <p>In elective courses students may choose more medicinal, science- or chemistry-oriented courses. They use ERASMUS exchange programs. They specialize during bachelor and master degree theses. Very often graduates find their jobs during the master thesis in industry or at scientific institutes.</p>

Numbers in each specialization?	Not defined	Courses are elective and are not taught if the number of students choosing the course is less than 25.
<b>Past and present changes in E&amp;T</b>		
Have there been any major changes since 1999?	No	The Pharmacy Program at University of Latvia opened in 2000 and following the Bologna declaration was immediately implemented as a 3+2 programme, and credit points (ECTS), diploma supplements <i>etc.</i> were introduced.
<b>Riga Stradins University (RSU)</b>		
<b>Teaching staff</b>		
Number of teaching staff (Latvian nationals)	89	The teaching staff (89) is composed of professors, lecturers <i>etc.</i> , involved in the programme. The teaching staff comes from the Faculty of Medicine, Language Centre and others.  The Faculty of Pharmacy has two departments 1. Department of Pharmaceutical Chemistry 2. Department of Technology of Drug Dosage Forms. The two departments employ 23 specific teachers (3 Professors, 10 Assistant professors, 10 lecturers and assistants)
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	5	Specialists from Latvian Society of Pharmacists, Clinical pharmacist, Community pharmacists, specialists from clinical research area, chemists from pharmaceutical industry, specialists from Laboratory of Pharmaceutical Pharmacology of Latvian Institute of Organic Synthesis. Certified pharmacists are involved in managing of students' traineeship as tutors receiving points for recertification. Each student during his study may have 3-5 certified pharmacists responsible for his traineeships.
<b>Students</b>		
Number of places at entry following secondary school	36	2009: <ul style="list-style-type: none"> <li>• 36 full-time places - 28 financed by the state budget , 8 financed by private or legal persons</li> <li>• 20 part-time places (following pharmacist's assistant education) financed by private or legal persons.</li> </ul>
Number of applicants for entry	117	2008 <ul style="list-style-type: none"> <li>• 117 applicants for full-time studies</li> <li>• 16 for part-time studies</li> </ul> 2009 <ul style="list-style-type: none"> <li>• 121 applicants for full-time</li> <li>• 12 for part-time studies.</li> </ul>
Graduates that become registered/professional pharmacists.	29	In the year 2008: 29 full-time graduates and 21 part-time graduates; 3 graduates with prior medical education after individual study plan. In questionnaires all graduates of 2008 answered that their work is connected with field of study.  Those graduates who are working in pharmacies must register in Pharmacists register. About 90% of our graduates are working in pharmacies. Our part-time students were registered like pharmacist assistants, after graduating – as pharmacists.
<b>Entry requirements</b>		
Specific pharmacy-related entrance examination	No	We require General Certificate of Secondary Education with good results in the centralised national examination in chemistry (A – D level), Latvian and foreign languages. Assessment in chemistry is the determinant.  In year the 2008 we also required a high mark in physics.
<b>Advanced entry</b>		

At which level?		Entrance at B2, moving from one HEI to another. The details of the study programme, study courses, credit points acquired the first HEI are evaluated.
What are the requirements?		HEI compares the content and volume of the master study courses with appropriate study courses in the RSU pharmacy programme and decides which courses could be accepted and which courses need additional examinations.
<b>Fees per year</b>		
For home students		For students enrolled in year 2009 and not receiving budgetary subsidy: 1 <sup>st</sup> year – 4176 €, 2 <sup>nd</sup> year – 4594 €, 3 <sup>rd</sup> year – 5052 €, 4 <sup>th</sup> year – 5558 €, 5 <sup>th</sup> year – 6113 €  For part-time students fees per year are lower, because these students have only 40 % contact hours.
<b>Length of course</b>	<b>5 years</b>	
<b>Specialization</b>		
Specialized courses?	Yes	RSU has only one specialization – pharmacy and pharmaceutical care. RSU teaches courses in subjects such as Hospital pharmacy, Industrial technology of drug forms, Clinical pharmacy, but these do not lead to a recognised specialization diploma.
<b>Past and present changes in E&amp;T</b>		
Have there been any major changes since 1999 at your HEI?	No	The pharmacy course was constructed with a credit point system, a diploma supplement satisfying <i>UNESCO/CEPES</i> developed standard, traineeship of 6 months in the 5 <sup>th</sup> year of studies, compulsory subjects, combined state examination, student's research work.  The number of contact hours has been reduced. Until year 2009 our credit point system comprised 70 % of contact hours per 1 credit point (1 CP was equal to 40 hours and 70 % of them were in contact with teaching staff). Now for 1 CP we have only 20 contact hours.
Major changes envisaged before 2019	Yes	Introduction of outcomes-based pharmaceutical education; improvement of the assessment system.

<b>References to texts and articles of national law</b>		
<a href="http://www.izm.gov.lv">www.izm.gov.lv</a> (Ministry of Education and Science) <a href="http://www.lu.lv">www.lu.lv</a> (University of Latvia). Law On Institutions of Higher Education ( <i>The Saeima 02.11.1995.</i> ) Regulations issued by the Cabinet of Ministers No. 846 (10.10.2006.) Entry requirements, <i>criteria and procedure in study programmes.</i> Regulations issued by the Cabinet of Ministers No. 932 (16.11.2004.) Procedure in study entry in latest study stages. Regulations issued by the Cabinet of Ministers No. 656 (02.10.2007.)		



## Chapter 3. Teaching and learning methods

### University of Latvia (UL)

Student hours					
Method	Year 1	Year 2	Year 3	Year 4	Year 5
Lecture	350	400	300	400	-
Tutorial	50	50	50	50	-
Practical	400	350	250	350	-
Project work	The bachelor thesis provides 15 ECTS and corresponds to 2.5 calendar months. It is an individual research project and how many hours one needs to work depends on the chosen topic. Approximately 40 h per week, total =400 h			The master thesis cannot be calculated in hours. It provides 30 ECTS and corresponds to 5 calendar months or 1 semester. It is an individual research project. In Latvia an average person works 160h per month, 8h per day, 40h per week., total =800 h	
Traineeship					6 months in community pharmacy or 3 months in community pharmacy + 3 months in hospital pharmacy  = 648 h (27 h per week).
<b>Subtotal</b>	<b>800</b>	<b>800</b>	<b>600</b>	<b>800</b>	-
Choice	200	200	200	200	100
Optional	200	200	200	200	-
<b>Total</b>	<b>1200</b>	<b>1200</b>	<b>1000</b>	<b>1200</b>	-

#### Comments

1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
Pharmacy program obligatory and elective courses include lectures, seminars, presentation of self-studies reports, practicals, presentation of research projects	Pharmacy program obligatory and elective courses include lectures, seminars, presentation of self-studies reports, practicals, research projects	Pharmacy program obligatory and elective courses include lectures, seminars, presentation of self-studies reports, practicals, research projects Bachelor thesis is an independent research project under guidance of	Pharmacy program obligatory and elective courses include lectures, seminars, presentation of self-studies reports, practicals, research projects	Pharmacy program obligatory and elective courses include lectures, seminars, presentation of self-studies reports, practicals, research projects as well as include invited lectures by lecturers from industry and community

		academic staff.		<p>pharmacies, medical doctors and foreign visiting professors.</p> <p>Master thesis are independent research project under guidance of academic staff.</p>
				<p>Practice is at the end of program before Master thesis and are carried out at community pharmacies or 3 months in community pharmacy + 3 months at hospital pharmacy or 3 months at foreign pharmacy in ERASMUS training program + 3 months in Latvia pharmacies.</p>
Electives are of 2 kinds – courses offered by academic staff working in pharmacy program and courses offered for whole university by different staff or foreign visiting scientists, professors, professionals <i>etc.</i>				

### Teaching and learning methods – UL (contact hours)

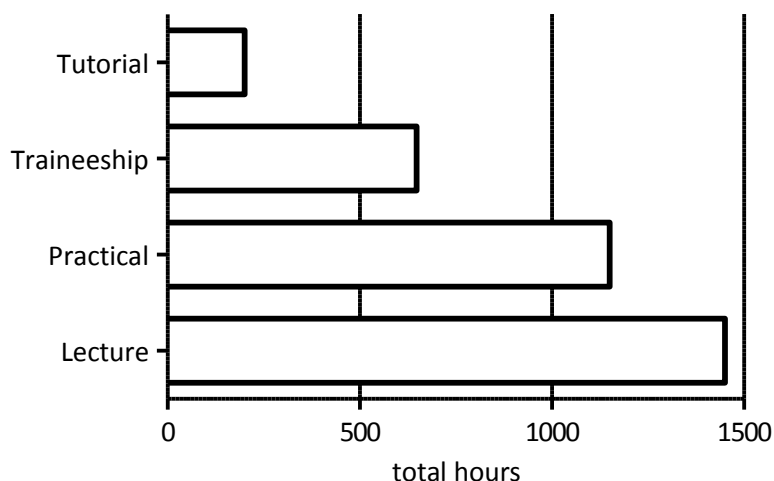


Fig. Number of rs.

According to the Latvian law a 3+2 years or 5 years program volume is  $(120+ 80=200)$  200 credit points or 8000 h, and not more than 4000 h may be contact hours.

#### Law On Institutions of Higher Education

Contact lesson - the direct communication of academic staff and students, which is implemented for the achievement of the goals and tasks of a study programme in accordance with the study programme plan and the duration of which is one academic hour;

Credit point – an accounting unit of studies which corresponds to a student’s work load of 40 academic hours (one week of studies) in which up to 50 per cent of the academic hours are intended for contact lessons

<http://izm.izm.gov.lv/laws-regulations/2095.html>

## Riga Stradins University (RSU)

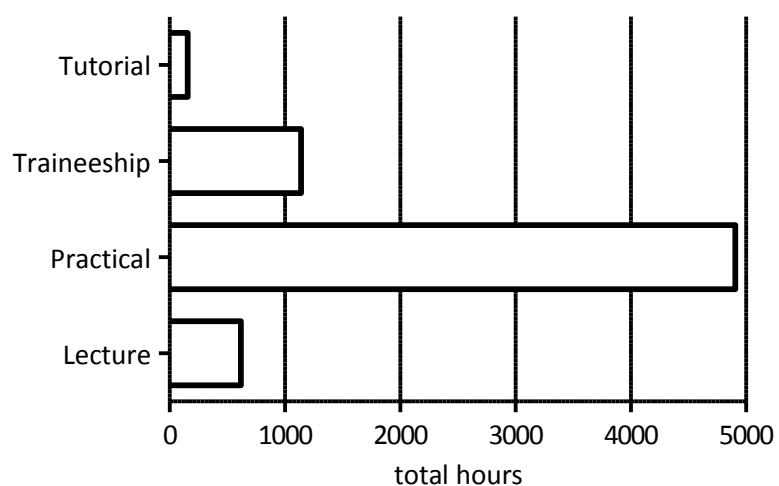
### Student hours

Method	Year 1	Year 2	Year 3	Year 4	Year 5
Lecture	194	147	175	101	-
Tutorial	50	37	44	25	
Practical	510 +704	531+640	544+719	619 +720	-
Project work					400
Traineeship					
Hospital					20
Community		40			1040 (26 CP, 6 months)
Other Pharmacognosy		80			
<b>Subtotal</b>	<b>1458</b>	<b>1355</b>	<b>1482</b>	<b>1465</b>	<b>1460</b>
Optional	160	160	160	160	160
<b>Total</b>	<b>1474</b>	<b>1515</b>	<b>1642</b>	<b>1625</b>	<b>1620</b>

### Comments.

1	2	3	4	5
<p>Practical hours consist of practical work in contact with teaching staff and student's individual work.</p> <p>Courses, traineeship, and electives are validated at a session of the Faculty's Department and then by the University Senate.</p>				<p>In 5<sup>th</sup> year of studies there are no obligatory subjects.</p>

Teaching and learning methods – RSU (hours)



**References:** Procedure of Riga Stradins University No.34: Development of study programmes and study subjects programmes.

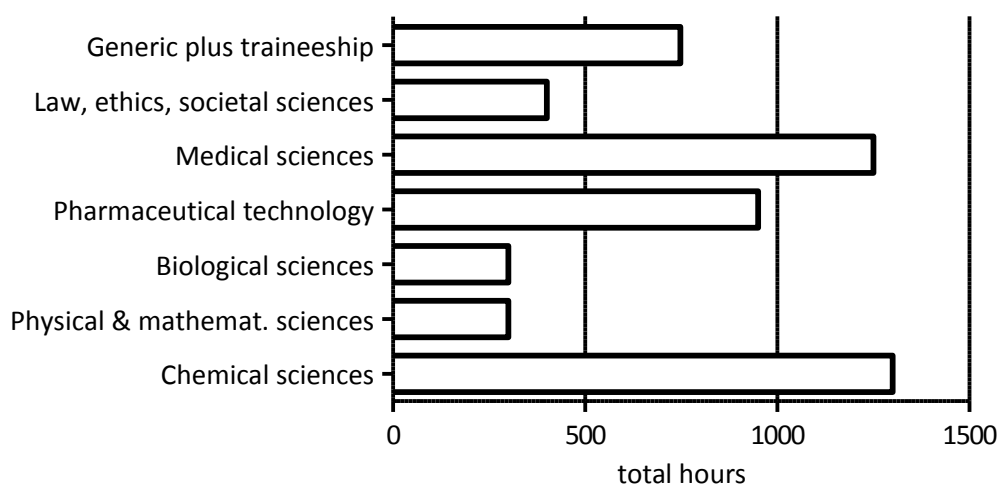
## Chapter 4. Subject areas

### University of Latvia (UL)

#### Student hours

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
CHEMSCI	400	400	300	200	-	<b>1300</b>
PHYSMATH	-	100	-	200	-	<b>300</b>
BIOLSCI	100	200	-	-	-	<b>300</b>
PHARMTECH	50	100	600	200	-	<b>950</b>
MEDISCI	350	400	300	200	-	<b>1250</b>
LAWSOC	100	-	-	300	-	<b>400</b>
GENERIC	200	-	-	100	-	<b>300</b>
GENERIC + TRAINEESHIP	-	-	-	100	648	<b>748</b>
<b>TOTAL</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>648</b>	<b>5448</b>

Subject areas – UL (hours)



#### References

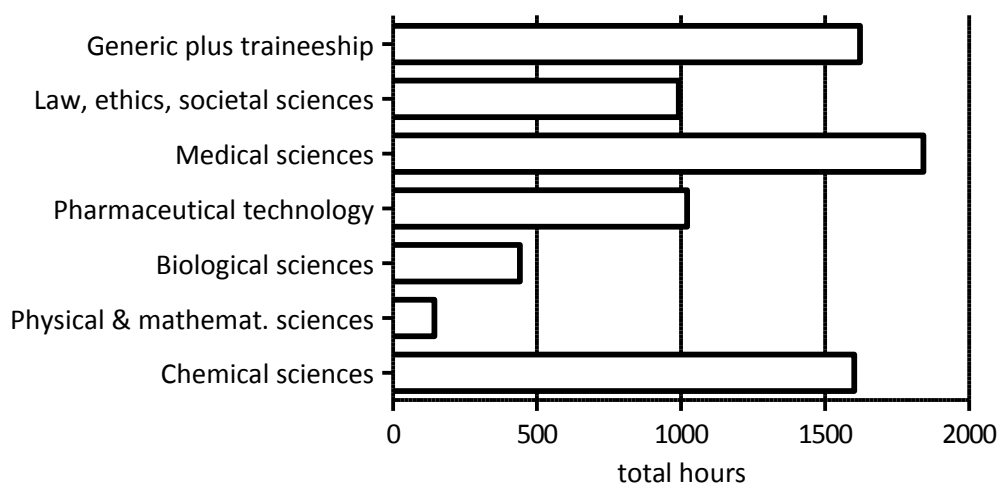
[www.aiknc.lv](http://www.aiknc.lv) Lists of accredited study programs and universities in Latvia.

## Riga Stradins University (RSU);

### Student hours

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
<b>CHEMSCI</b>	400	480	360	160	200	<b>1600</b>
<b>PHYSMATH</b>	144	-	-	-	-	<b>144</b>
<b>BIOLSCI</b>	240	120	80	-	-	<b>440</b>
<b>PHARMTECH</b>	20	40	400	400	160	<b>1020</b>
<b>MEDISCI</b>	200	560	600	400	80	<b>1840</b>
<b>LAWSOC</b>	32	80	-	360	520	<b>992</b>
<b>GENERIC</b>	160	80	-	120	80	<b>440</b>
<b>GENERIC + TRAINEESHIP</b>	160	200	-	120	1140	<b>1620</b>
<b>TOTAL</b>	<b>1196</b>	<b>1480</b>	<b>1440</b>	<b>1440</b>	<b>2100</b>	<b>7656</b>

Subject areas – RSU (hours).



In each year of studies students have the opportunity to choose elective courses (2 courses with 2 CP for each). These subjects are from several subject areas (I – VII) and the hours spent for each area depends on the student's choice. For example, a student can increase his/her PHARMTECH area by choosing "Drug registration" or his/her BIOLSCI area by choosing "Pharmacogenetics".

## Chapter 5. Impact of the Bologna principles

Bologna principle	Is the principle applied?	Comments
<b>1. Comparable degrees / Diploma Supplement</b>	Yes	<p>UL Since 2004. Students receive a DS delivered according to <a href="http://www.enic-naris.net/documents/THE_DIPLOMA_SUPPLEMENT.pdf">www.enic-naris.net/documents/THE_DIPLOMA_SUPPLEMENT.pdf</a></p> <p>RSU Together with their pharmacy diploma graduates also receive a Diploma Supplement in Latvian and English, according to regulations issued by the Cabinet of Ministers No. 656 (02.10.2007.) Procedure for state acknowledged higher education attesting education documents issue.</p>
<b>2. Two main cycles (B and M) <u>with entry and exit at B level</u></b>		<p>UL Ninety-eight % of all bachelor students continue studies in mainly with a pharmacy master (or in other master study programmes).</p> <p>RSU No</p>
<b>3. ECTS system of credits / links to LLL</b>	Yes	<p>UL National credit points are linked to ECTS and 1 national CP corresponds to 1.5 ECTS in whole country. All universities use the same system. ECTS are given to all courses and shown in UL course catalogue. Also, ECTS are given in Diploma supplement. Program is opened in year 2000, and since then ECTS are used. ERASMUS exchange students receive ECTS and UL validates ECTS obtained in other countries. Persons who are not HEI students, but are registered as course auditors after course pass exam and receive certificate in national CP and ECTS. CPD Credit Point System for Medical Officers, Dental Officers &amp; Pharmacists are not used in full-time university study programs. Officially CPD CP are not calculated, but similar system is developed for life long studies and pharmacists for certification receive points from conferences, publications, seminars etc.</p> <p>RSU The credit point system is linked to the ECTS system, 1 RSU CP is equal to 1.5 ECTS. The total ECTS amassed in the various subject areas is given in the Diploma Supplement. Riga Stradins University completely validates ECTS obtained in other HEI in any European country. ECTS can also be acquired in a non-HEI context – two students at the moment have a traineeship in Netherlands in community pharmacies and the traineeship will be assessed in ECTS. HEI offers courses to persons not enrolled at the HEI. Such persons upon passing an examination receive a certificate with course amount expressed in CP.</p>
<b>4. Obstacles to mobility</b>	Yes	<p>LU Mobility is organized within the framework of ERASMUS exchange or ERASMUS training program or with different fellowships. Non ERASMUS mobility is possible if it is the student's wish to study abroad, by obtaining fellowships such as the Fulbright fellowship, fellowships from other universities, support from sponsors, etc. University International office and ERASMUS exchange responsible persons at</p>



		<p>faculties help with housing and information, language courses are available, finances are fellowships.. Every year 7-8 pharmacy students (0,04%) can receive ERASMUS fellowships. Number of incoming students in pharmacy program from other countries is irregular.</p> <p>For UL students the main mobility problem is finance and fact that our students work in parallel to studies. Teacher mobility problem is big workloads and lack of substitutes. For incoming students problem is Latvian language. Language courses are offered but Latvian language is language of small country and thus not popular.</p> <p>RSU RSU is part of ERASMUS since 2004. The HEI centrally notifies each member of teaching staff about the possibilities for participation in exchange programmes. ERASMUS seminars, information days. Language courses for students are also organised. The students' interest in taking part in ERASMUS increases every year. In the academic year 2008/2009 there were no pharmacy students in ERASMUS. In 2009/2010 RSU has three students in the Netherlands and Germany and two are planning to go to Portugal. The teaching staff has difficulties with language and finding free time for such activities.</p> <p>Department of Academic and Foreign affairs organize language courses and help with housing. Financial support - fellowship depends from students' study results. Approximately 5 pharmacy students have opportunity to receive ERASMUS fellowship every year.</p>
<p><b>5. European QA</b></p>	<p>Yes</p>	<p>LU The programme is internationally evaluated. For program accreditation International accreditation bodies are not invited, but international experts are, and it involves site visits. The accreditation body is Higher Education Quality Evaluation Centre (HEQEC) <a href="http://www.aiknc.lv">www.aiknc.lv</a> (in English) <a href="http://www.aiknc.lv/en/about.php">http://www.aiknc.lv/en/about.php</a></p> <p>The HEQEC invites international and national experts to site visits and after that experts write their evaluation report. The final decision lies with the Council of Higher Education and the Accreditation Commission.</p> <p>The University of Latvia study programs were evaluated by the European University Association (EUA: UNIVERSITY OF LATVIA AT RIGA - EVALUATION REPORT, August 2009. Team: Jürgen Kohler, chair, Bente Kristensen, Sergio Machado dos Santos, Jon Olafur Valdimarsson, John L. Davies, team coordinator</p> <p><a href="http://www.lu.lv/fileadmin/user_upload/lu_portal/dokumenti/parskati-un-zinojumi/University%20of%20Latvia%20Final%20Report.pdf">http://www.lu.lv/fileadmin/user_upload/lu_portal/dokumenti/parskati-un-zinojumi/University%20of%20Latvia%20Final%20Report.pdf</a></p> <p>RSU Higher Education Quality Evaluation Centre (HEQEC) organises accreditation of HEI and Programmes of Higher education.</p> <p>RSU Pharmacy programme is accreditate by Accreditation Commission of Higher Education programmes since 2000. In 2000 there were five international experts evaluating the programme (Juozas Stanaitis; Lembit Allikmets; Ingrid Thorell-Ekstrand; Mare Saag; Aleksandras Kriščiūnas).</p> <p><a href="http://www.aiknc.lv/en/prog_view.php?id=4432">http://www.aiknc.lv/en/prog_view.php?id=4432</a></p> <p>In 2006 programme were evaluated by Head of Department of Pharmacy of the Ministry of Health.</p> <p>RSU was evaluated in 2001 and international experts were Eric A.E. van Marck</p>

		(chair); Lembit Allikmets, Kestutis Kriščiūna. In 2002 team of experts from EU Member States evaluated Faculty of Pharmacy (TAIEX experts – Christine Gaudisch, Stephanie Maurice, Hans Wolfgang Schramm)
<b>6. European dimension</b>	Yes	<p>UL</p> <p>The Faculty of Medicine has experience to teach foreign students in General Medicine program, where 20% of program is in English, some of these students change program and are enrolled in pharmacy program. Every year new ERASMUS exchange contracts between universities are signed. Academic staff is involved in international multidisciplinary research projects and bi-directional projects.</p> <p>Students attend summer schools if financially it is possible e.g. year 2010 three students attended toxicology courses at Coimbra university (Portugal). Visiting researchers are invited to give lectures (recently from Canada and The Netherlands). Some of our students continue studies at master degree programs in EU countries (Germany, Italy, The Netherlands). Goal is to increase number of incoming ERASMUS students and facilitate teacher exchange.</p> <p>RSU</p> <p>Vision of RSU is a modern, prestigious university acknowledged in Europe and the world in the fields of healthcare and social sciences, with the human being at its centre of attention. Mission of RSU is to train highly qualified experts in the fields of healthcare and social sciences, so that they can serve the society of Latvia, the European Union, as well as the world. One of priorities of action is enlargement of international co-operation with decreasing a number of foreign students, enlargement of international teaching staff, and ensuring mobility of at least 10 % of students and academic staff.</p>
<b>ERASMUS staff exchange to LU from elsewhere</b>	1 staff month	Each year there is exchange with Germany, Netherlands, Bulgaria, Italy  LU also has contracts with several other universities but ERASMUS exchange is not used every year.
<b>ERASMUS staff exchange from LU to other HEIs</b>	2 staff months	Each year there is exchange with Italy, Hungary, Bulgaria, France.
<b>ERASMUS student exchange to LU from elsewhere</b>	8 student months	As studies are in Latvian foreign students mainly do research and come with an ERASMUS fellowships ( from Germany, Netherlands, Sweden).
<b>ERASMUS student exchange from LU to other HEIs</b>	240 student months	Each year students go to Finland, Italy, Portugal, Netherlands, Bulgaria, Estonia, or Sweden.  Courses that do not correspond to our program are accepted as elective courses or research projects and validated according to credit points obtained abroad.
<b>ERASMUS staff exchange to RSU from elsewhere</b>	11	In academic year 2008./2009. 11 teachers visited RSU Health care programmes.
<b>ERASMUS staff exchange from RSU to other HEIs</b>	2 staff months	One professor has improved his skills and experience in Island.
<b>ERASMUS student exchange to RSU from elsewhere</b>		RSU: All courses in Faculty of Pharmacy at the moment are in Latvian, but RSU accepts students to do research work within the framework of the ERASMUS programme.

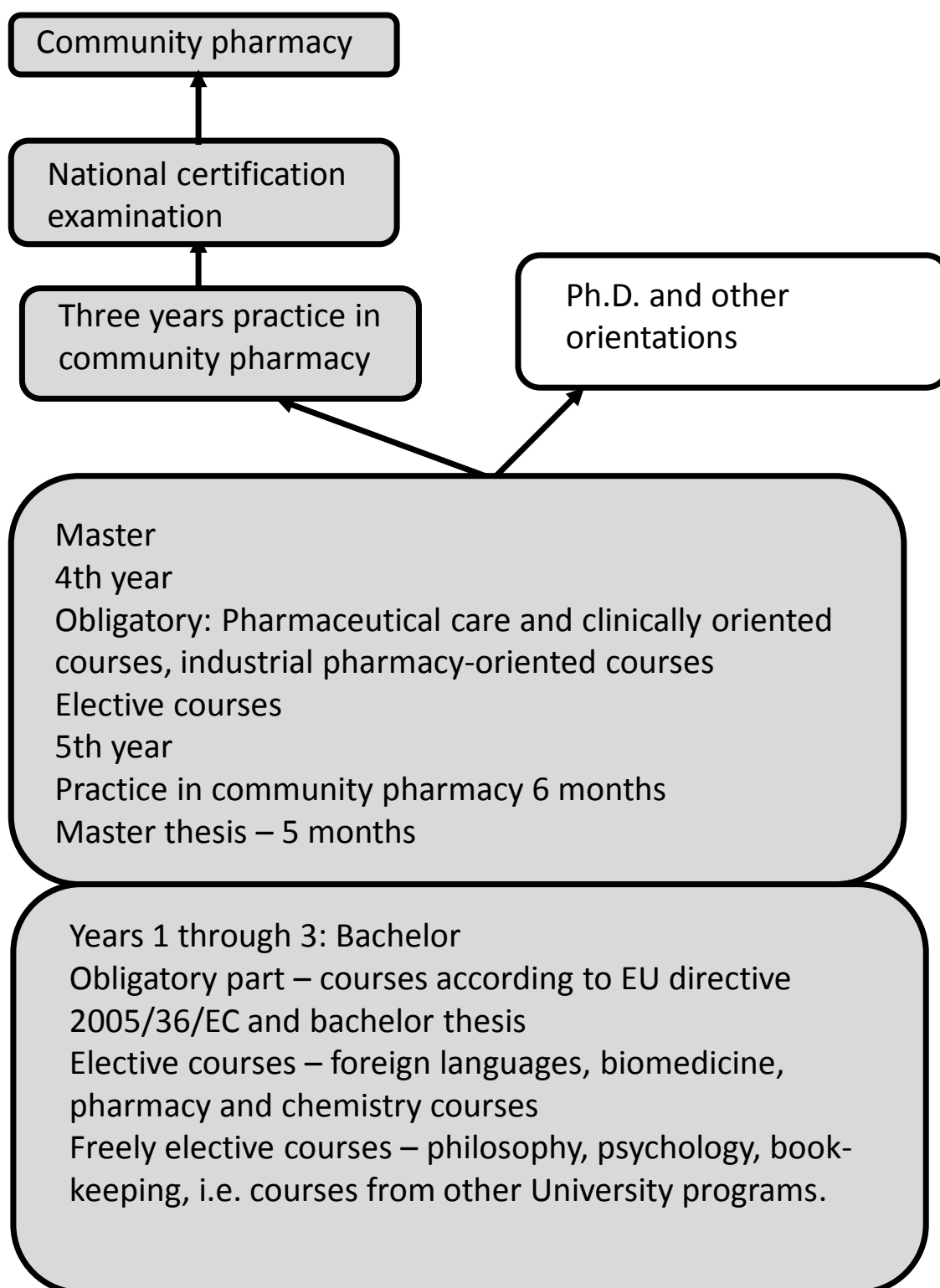
<b>ERASMUS student exchange from RSU to other HEIs</b>	240 student months	In 2009/2010 two pharmacy students are in ERASMUS exchange for 1 semester in the Netherlands and Germany. RSU also has experience with Finland and France.
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## Chapter 6. Impact of EC directive 2005/36/EC

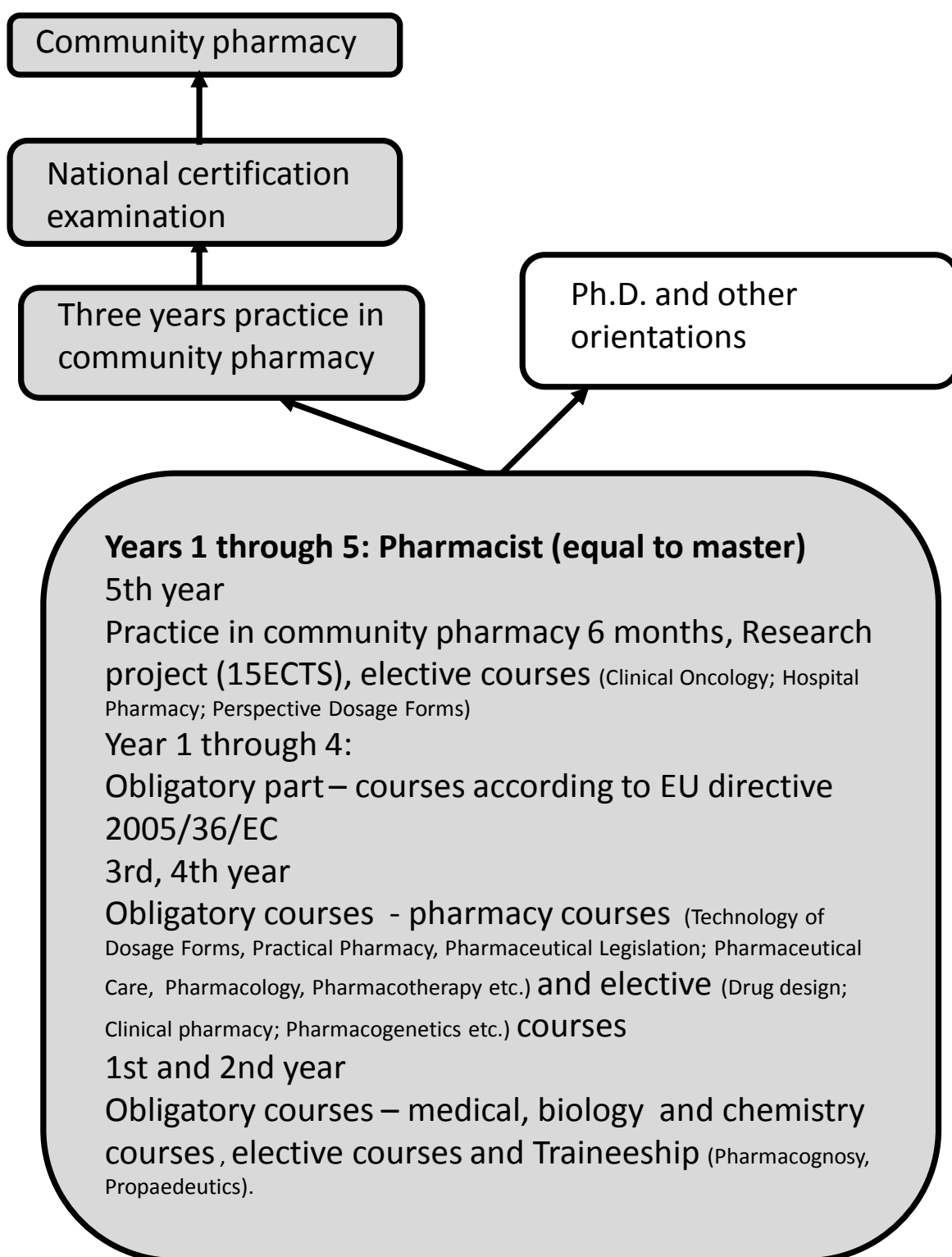
The directive states	How does / will this directive statement affect pharmacy E&T? Do you consider the directive statement valid? If not how would you change it?
<p><b>“Evidence of formal qualifications as a pharmacist shall attest to training of at least <u>five years' duration</u>...”</b></p>	<p>LU It is acceptable. Albeit in some countries graduates with a bachelor degree from a pharmacy faculty work as pharmacists’ assistants and the directive gives no indication on this point.</p> <p>RSU Five years’ education is absolutely necessary for the pharmacists’ professionalism. Like other health care specialists a pharmacist must work alongside medical specialists in patients’ care.</p> <p>A pharmacist must be able to perform research in chemical, biological areas.</p> <p>Although a long 5 year’s duration makes a pharmacists’ education expensive and this is important in economical terms, quality and professionalism, and the ability to keep up with the latest developments are the most important.</p>
<p><b>“<u>...four years of full-time theoretical and practical training</u> at a university or at a higher institute of a level recognised as equivalent, or under the supervision of a university;”</b></p>	<p>LU A 4 year program is too short because with a study year of 10 months duration and 6 months training, plus 2.5 months bachelor thesis, and 5 months master thesis, this leaves only 26.5 months for theoretical and laboratory training courses.</p> <p>RSU Pharmacists must have the knowledge, skills and competences in many areas. It may be possible to provide a theoretical basis in four years, but not in a shorter time.</p>
<p><b>“<u>...six-month traineeship in a pharmacy</u> which is open to the public or in a hospital, under the supervision of that hospital's pharmaceutical department.”</b></p>	<p>LU It is acceptable but 5 months would correspond better with the length of a semester.</p> <p>RSU Six-month traineeship in a pharmacy allows to apply theoretical knowledge and synthesize the own decision in real life.</p>
<p><b>“The balance between theoretical and practical training shall, in respect of each subject, give <u>sufficient importance to theory to maintain the university character of the training.</u>”</b></p>	<p>LU It is acceptable</p> <p>RSU HEI tasks give an opportunity to obtain theoretical knowledge which later could be applied in traineeship. The first question is why, then how. Theory is the most important thing, the foundation on which the pharmacists’ skills, attitude will be built.</p>
<p><b>Directive annex</b></p>	<p><b>How does / will this directive annex affect pharmacy E&amp;T? Do you consider the directive annex valid? If not how would you change it?</b></p>

<p><b>V.6. PHARMACIST</b></p> <p><b>5.6.1. <i>Course of training for pharmacists</i></b></p> <p><b>Plant and animal biology / Physics / General and inorganic chemistry / Organic chemistry / Analytical chemistry / Pharmaceutical chemistry, including analysis of medicinal products / General and applied biochemistry (medical) / Anatomy and physiology; medical terminology / Microbiology / Pharmacology and pharmacotherapy / Pharmaceutical technology / Toxicology / Pharmacognosy / Legislation and, where appropriate, professional ethics.</b></p>	<p>LU</p> <p>It is acceptable</p> <p>RSU</p> <p>The list of subjects must be adapted to the modern situation, because pharmacy has changed. Subjects as pharmacogenetics, clinical pharmacology, medical chemistry, molecular biology must be included.</p>
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## The University of Latvia pharmacy education and training scheme.



## The Riga Stradins University pharmacy education and training scheme.



Pharmacy education and training leading to professional pharmacy practice is shown on the left in grey.



Education and Culture DG

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**Website: [www.pharmine.org](http://www.pharmine.org)**