

Pharmacy education & training in

# SLOVAKIA

2011



**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. The PHARMINE paradigm can be found here (we will include a web reference to the PHARMINE paradigm text).

PHARMINE will take into account two important issues, (i) the EU directive 2005/36/EC on the recognition of professional qualifications 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.

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

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## Summary.

Community pharmacies in Slovakia provide traditional community pharmacy services. Internet pharmacies are operating and are linked to community pharmacies. Ownership and geographical distribution of community pharmacies are not restricted by any rules. However, pharmacist should be employed as pharmacy manager to open pharmacy. At community pharmacy there are working pharmacists, pharmacy technicians and pharmacy sanitary.

Comenius University only provides uninterrupted studies in pharmacy on Master level. There exists a specific pharmacy-related entrance examination in chemistry and biology. During pharmacy studies the specialized courses are not provided.

Pharmacy education in Slovakia follows Bologna principles and EC directive 2005/36/EC.

## Introduction.

### Statistics for Slovakia.

Total population: 5 435 273

Gross national income per capita (PPP international \$): 11 400€

Life expectancy at birth m/f (years): 71/78

Healthy life expectancy at birth m/f (years, 2007): 64/70

Probability of dying under five (per 1 000 live births): 59

Probability of dying between 15 and 60 years m/f (per 1 000 population): 269

Total expenditure on health per capita (Intl \$, 2006): 735

Total expenditure on health as % of GDP (2006): 7,1

Detailed information is available at: World Health Statistics 2009:

<http://www.who.int/whosis/whostat/2009/en/index.html>

### Highlights on health in Slovakia.

Healthcare systems in transition Slovakia (2004)

[http://www.euro.who.int/\\_data/assets/pdf\\_file/0007/95938/E85396.pdf](http://www.euro.who.int/_data/assets/pdf_file/0007/95938/E85396.pdf)

Pharmaceutical Pricing and Reimbursement Information

[http://ppri.oebig.at/Downloads/Results/Slovakia\\_PPRI\\_2007.pdf](http://ppri.oebig.at/Downloads/Results/Slovakia_PPRI_2007.pdf)

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

	Y/N, number or %	If you wish to expand your answer, please add your comments below.
<b>Community pharmacy</b>		
Number of community pharmacists	2900	
Number of community pharmacies	1848	
Competences and roles of community pharmacists		Competencies of community pharmacists/ Supplying prescription medicines <ol style="list-style-type: none"> <li>Managing medicines for some ailments</li> <li>Giving advice on medicines</li> <li>Screening services</li> <li>Internet pharmacy</li> </ol>
Is ownership of a community pharmacy limited to pharmacists?	No	Pharmacist has to be the responsible person for pharmacy.
Rules governing the geographical distribution of community pharmacies?	No	
Are drugs and healthcare products available to the general public by channels other than pharmacies?	No	There are internet pharmacies linked to community pharmacy.
Are persons other than pharmacists involved in community practice?	Yes	There are pharmaceutical laboratory technician and pharmaceutical sanitary persons.
Their titles and number(s)	2080	No title
Their qualifications		
Duration of studies (years)	2 or 3 years	2 years if the study is after finished general secondary school (3 years external study)
Competences and roles		Sale of OTC-medicines, administration of OTC and IPD in competence of pharmaceutical laboratory technician
<b>Hospital pharmacy</b>		
Does such a function exist?	Yes	
Number of hospital pharmacists	159	Section of hospital pharmacists at Slovak Chamber of Pharmacists
Number of hospital pharmacies	50	
Competences and roles of hospital pharmacists		Competencies of hospital pharmacists: <ol style="list-style-type: none"> <li>In wards or outpatient clinics</li> <li>Consultant in specialised clinical areas such as paediatrics or intensive care</li> <li>Part of multidisciplinary patient-care team</li> <li>Purchasing of drugs and medical material</li> </ol>



- e. Monitoring of drug use
- f. Unit-dose drug distribution
- g. Production of patient-specific medicines (e.g. cytotoxic preparations)
- e. In some hospital pharmacies, the radio-medicines pharmacy

#### Pharmaceutical and related industries

Number of companies with production, R&D and distribution	110	<a href="#">Abbott Laboratories Slovakia s.r.o.</a> <a href="#">Asta Medica s.r.o.</a> <a href="#">AstraZeneca</a> <a href="#">Aventis</a> <a href="#">Boehringer Ingelheim</a> <a href="#">Bristol - Myers Squibb</a> <a href="#">Eli Lilly</a> <a href="#">GlaxoSmithKline Slovakia s.r.o.</a> <a href="#">ICN Czech Republic a.s.</a> <a href="#">Janssen-Cilag</a> <a href="#">Knoll s.r.o.</a> <a href="#">Laboratoires Fournier</a> <a href="#">Lek d.d., o.z.</a> <a href="#">Lundbeck</a> <a href="#">Medochemie Ltd. o.z.</a> <a href="#">Merck Sharp &amp; Dohme</a> <a href="#">Novartis</a> <a href="#">Novo Nordisk A/S</a> <a href="#">Parke - Davis</a> <a href="#">Pfizer</a> <a href="#">Pharmacia (Pharmacia&amp;Upjohn)</a> <a href="#">Pliva</a> <a href="#">Roche</a> <a href="#">Sanofi Pasteur GmbH</a> <a href="#">Searle</a> <a href="#">Schering</a> <a href="#">Schering Plough</a> <a href="#">SmithKline Beecham</a> <a href="#">Solvay Pharma</a> <a href="#">UCB Pharma, s.r.o.</a> <a href="#">Unimed Pharma s.r.o.</a> <a href="#">Wörwag Pharma GmbH&amp;Co.</a> <a href="#">Wyeth - Lederle</a>
		Ctrl+Click on the name to go to the website of the company.
Number of companies with production only	14	
Number of companies with distribution only	12	
Number of companies producing generic drugs only	1	Zentiva a.s. <a href="http://www.zentiva.sk/">http://www.zentiva.sk/</a>
<b>Industrial pharmacy</b>		
Number of pharmacists working in industry	200	
Competences and roles of industrial pharmacists		Competencies of industrial pharmacists: <ul style="list-style-type: none"> <li>a. Synthesis and production of new chemical entities and drugs</li> </ul>

		<ul style="list-style-type: none"> <li>b. R&amp;D – drugs</li> <li>c. R&amp;D – health care products other than drugs</li> <li>d. Preclinical drug evaluation (safety and efficacy)</li> <li>e. Clinical drug evaluation (safety and efficacy)</li> <li>f. Marketing</li> <li>g. Distribution</li> <li>h. Medical devices</li> <li>i. Cosmetology</li> <li>j. Drug evaluation and registration (governmental and industrial)</li> </ul>
<b>Other sectors</b>		
Number of pharmacists working in other sectors	-	No available data
Sectors in which pharmacists are employed		<ul style="list-style-type: none"> <li>Government and ministries</li> <li>Regional government</li> <li>Academic position</li> <li>Science</li> <li>Journalism</li> <li>Forensics</li> <li>Armed forces</li> <li>Voluntary health organisations/non-governmental organisations</li> <li>Secondary school E&amp;T (biology, clinical chemistry...)</li> <li>National health services</li> <li>International health services</li> <li>Agricultural and veterinary pharmacy</li> <li>Administrators of pharmaceutical associations</li> </ul>
<b>Roles of professional associations</b>		
Registration of pharmacists	Yes	<p>Slovak Chamber of Pharmacists</p> <p>The Slovak Chamber of Pharmacists represents pharmacies and pharmacists. Its website provides an address book of pharmacies and a registry of members of the Chamber, hosts a discussion forum and provides a list of regional chambers.</p>
Creation of community pharmacies and control of territorial distribution	No	
Ethical and other aspects of professional conduct	Yes	<p>There exists the Code of Ethics for pharmacists.</p> <p>The ethical committees are based on system: EC Ministry of Health, Local EC (Health care facilities or R&amp;D institutions and Regional EC (State authority)</p>
Quality assurance and validation of HEI courses for pharmacists	Yes	<p>Accreditation Committee of Ministry of Education and specialisation studies – Ministry of health.</p>

## Websites

Ministerstvo zdravotníctva SR	<a href="http://www.health.gov.sk">www.health.gov.sk</a>
Svetová zdravotnícka organizácia	<a href="http://www.who.sk">www.who.sk</a>
Štátny ústav kontroly liečiv	<a href="http://www.sukl.sk">www.sukl.sk</a>
Slovenská lekárska komora	<a href="http://www.lekom.sk">www.lekom.sk</a>
Slovenská lekárska spoločnosť	<a href="http://www.slek.sk">www.slek.sk</a>
Asociácia lekárníkov Slovenska	<a href="http://www.als.sk">www.als.sk</a>
Slovenská lekárska spoločnosť	<a href="http://www.sls.sk">www.sls.sk</a>
Stredoeurópsky inštitút pre zdravotnú politiku - Health Policy Institute	<a href="http://www.hpi.sk">www.hpi.sk</a>
Asociácia distribútorov liekov a zdravotníckych pomôcok v SR	<a href="http://www.adl.sk">www.adl.sk</a>
Slovenská asociácia farmaceutických spoločností orientovaných na výskum a vývoj	<a href="http://www.safs.sk">www.safs.sk</a>
Úrad pre dohľad nad zdravotnou starostlivosťou	<a href="http://www.udzs.sk">www.udzs.sk</a>
Slovenská spoločnosť pre farmakoekonomiku	<a href="http://www.farmako-ekonomika.sk">www.farmako-ekonomika.sk</a>
Lekárska fakulta UK	<a href="http://www.fmed.uniba.sk">www.fmed.uniba.sk</a>
Farmaceutická fakulta UK	<a href="http://www.fpharm.uniba.sk">www.fpharm.uniba.sk</a>
Slovenská zdravotnícka univerzita	<a href="http://www.szu.sk">www.szu.sk</a>
Slovenská Zdravotnícka Sieť	<a href="http://www.healthnet.sk">www.healthnet.sk</a>
Zdravotnícky informačný servis	<a href="http://www.medicus.sk">www.medicus.sk</a>
NÁRODNÉ CENTRUM ZDRAVOTNÍCKYCH INFORMÁCIÍ	<a href="http://www.nczisk.sk">www.nczisk.sk</a>
Štatistický úrad	<a href="http://www.statistics.sk">www.statistics.sk</a>
I-Europa, s.r.o. - monitoringu vývoja politiky v oblasti zdravotníctva a farmaceutického priemyslu v EÚ i na Slovensku	<a href="http://www.euractiv.sk">www.euractiv.sk</a>
Asociácia na ochranu práv pacientov SR	<a href="http://www.aopp.sk">www.aopp.sk</a>
Zbierka zákonov	<a href="http://www.zbierka.sk">www.zbierka.sk</a>

## Chapter 2. Pharmacy HEIs, students and courses

	Y/N, number or %	If you wish to expand your answer, please add your comments below.
<b>Total number of Pharmacy HEIs in your country</b>	2	Comenius University Bratislava, Faculty of Pharmacy. www.fpharm.uniba.sk University of Veterinary Medicine and Pharmacy http://www.uvm.sk/en/node/1437
Public	2	
<b>Organisation of HEIs</b>		
Independent faculty	1	Comenius University in Bratislava <a href="http://www.fpharm.uniba.sk">www.fpharm.uniba.sk</a>
Other (please specify)	1	University of veterinary medicine and pharmacy
Do HEIs offer B + M degrees?	No	
Do HEIs offer an M. Pharm. after a B degree in another HEI?	No	Only M – Pharmacy (no B studies) Or B- Medical and Diagnostic device
<b>Bratislava-Slovakia</b>		
<b>Teaching staff</b>		
Number of teaching staff (nationals)	108	Professors 14, assistant-professors 32 at full time 20 teachers are on part time
Number of international teaching staff	3	Switzerland, Czech Republic, Austria
Number of professionals (pharmacists and others) from outside the HEIs, involved in E&T	350	80% Community pharmacists responsible for traineeship 20% partners for R&D (tutors for MSc, and PhD thesis)
<b>Students</b>		
Places at traditional entry (beginning of S1 of B1, following secondary school)	350	There are 250 Slovak and 100 foreigners . Amount is decision of Academic Senate of Faculty.
Number of applicants for entry	>1000	
Number of graduates that become registered/professional pharmacists.	200	There are 200-220 graduated Slovaks (registered about 85%, 10% for PhD and 5% others. 30-40 foreigners – no data
Number of international students (from EU member states)	350	10 countries of EU plus Serbia, Kuwait
Number of international students (non EU)	8	Serbia, Kuwait
<b>Entry requirements (beginning of S1 of B1, following secondary school)</b>		
Your HEI has a specific pharmacy-related entrance examination	Yes	Biology and Chemistry multiply test

<b>Fees per year</b>		
For home students	0	
For EU MS students	7200 €	For those students studying in English.
For non EU students	7200 €	For those students studying in English.
<b>Length of course</b>	<b>5 years</b>	
<b>Specialization</b>		
Does your HEI provide specialized courses?	No	
<b>Past and present changes in E&amp;T</b>		
Have there been any major changes since 1999 at your HEI?	Yes	6 months pharmacy practice was introduced in pharmacy master curriculum.
Are any major changes envisaged before 2019 at your HEI?	Yes	2011 New study program for Pharmacy (English version not available now)
<b>Is your HEI typical of all HEIs in the country?</b>	Yes	

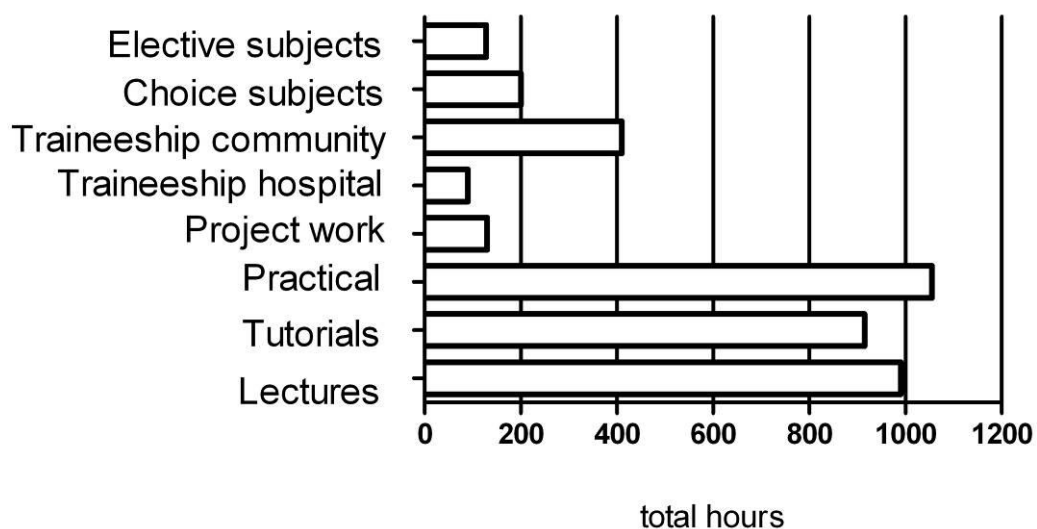
<b>References</b>	
References to texts and articles of national law	<a href="http://www.fpharm.uniba.sk">www.fpharm.uniba.sk</a>

### Chapter 3. Teaching and learning methods

#### Student hours

Method	Year 1	Year 2	Year 3	Year 4	Year 5
<b>HEIs courses</b>					
Lecture	266	210	252	280	0
Tutorial	98	70	112	126	0
Practical	266	196	182	266	0
Project work	0	0	0	84	350
<b>Traineeship</b>					
Hospital	0	0	0	0	0
Community	0	0	0	160	800
<b>Electives</b>					
Choice	28	28	28	84	0
Optional	238	446	504	266	0

Hours by learning methods

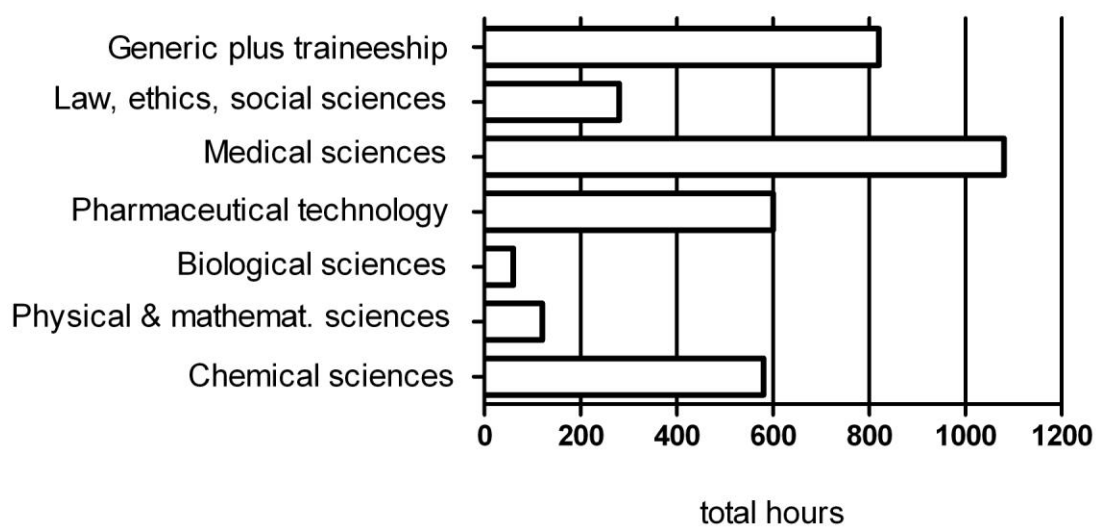


## Chapter 4. Subject areas

### Student hours

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5
<b>CHEMSCI</b>	<b>322</b>	<b>294</b>	<b>182</b>	<b>126</b>	<b>0</b>
PHYSMATH	154	84	0	42	0
BIOLSCI	126	98	126	0	0
PHARMTECH	0	42	154	266	0
MEDISCI	112	196	350	224	0
LAWSOC	28	0	56	24	0
<b>GENERIC</b>	<b>56</b>	<b>84</b>	<b>28</b>	<b>160</b>	<b>825</b>

Hours by subject area



## Chapter 5. Impact of the Bologna principles

Bologna principle	Is the principle applied? Y/N or partially	How is it applied? Does your HEI have multilateral recognition and agreements? Other comments.
<b>Comparable degrees / Diploma Supplement</b>	Yes	All documents could be issued in Slovak or/and English version.
<b>Two main cycles (B and M)</b>	No	
<b>ECTS system of credits / links to LLL</b>	Yes	2005 onwards
<b>Obstacles to mobility</b>	No	
<b>European QA</b>	No	
<b>ERASMUS staff exchange to your HEI from elsewhere</b>		0
<b>ERASMUS staff exchange from your HEI to other HEIs</b>		One teacher per year
<b>ERASMUS student exchange to your HEI from elsewhere</b>		1-2 students per year
<b>ERASMUS student exchange from your HEI to other HEIs</b>		Usually 3-5 students per year



## Chapter 6. Impact of EC directive 2005/36/EC

The directive states	How does / will this directive statement affect pharmacy E&T?
“Evidence of formal qualifications as a pharmacist shall attest to training of at least <b>five years' duration...</b> ”	Five years
“ <b>...four years of full-time theoretical and practical training</b> at a university or at a higher institute of a level recognised as equivalent, or under the supervision of a university;”	Fulfilled
“ <b>...six-month traineeship in a pharmacy</b> which is open to the public or in a hospital, under the supervision of that hospital's pharmaceutical department.”	Fulfilled
“The balance between theoretical and practical training shall, in respect of each subject, give <b>sufficient importance to theory to maintain the university character of the training.</b> ”	Fulfilled
Directive annex	How does / will this directive annex affect pharmacy E&T?
<b>V.6. PHARMACIST</b> <b>5.6.1. Course of training for pharmacists</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.	Fulfilled



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With the support of the Lifelong Learning Programme of the European Union  
(142078-LLP-1-2008-BE-ERASMUS-ECDSP).

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