

Pharmacy education & training in

# GREECE

2012 – version 2

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 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.

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:

<http://enzu.pharmine.org/media/filebook/files/PHARMINE%20WP7%20survey%20of%20European%20HEIs%200309.pdf>

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## Summary.

Greece has 3 public pharmacy faculties in Athens, Patras and Thessaloniki; the latter two are separate faculties within the School of Health Sciences. Athens is an independent faculty. There are no private institutions delivering pharmacy education and training.

All three faculties have a 5 year seamless programme leading to the pharmacy diploma required to work in community, hospital or industrial pharmacy. There is no specialisation at the undergraduate level. Pharmacy graduates can follow two year master courses in topics related to industrial (e.g. drug analysis) or hospital pharmacy (e.g. radio-pharmaceuticals), but entrance into such courses is not limited to pharmacy graduates.

Based on the relevant EU directive, pharmacy students are required to follow practical training in hospital and/or to community pharmacies open to the public for 12 months (minimum period in hospitals 3 months, minimum period in a community pharmacy 3 months). There is no official scheme for the practical training of Industrial pharmacists. However several programs constantly available during the recent years support financially the practical training of pharmacy students in either the pharmaceutical industry or hospital pharmacies. The Faculties of Pharmacy in Greece offer MSc degrees in Industrial and Clinical Pharmacy

## Introduction.

Total population: 11,123,000

Gross national income per capita (PPP international \$): 30,870

Life expectancy at birth m/f (years): 77/82

Healthy life expectancy at birth m/f (years, 2003): 69/73

Probability of dying under five (per 1 000 live births): 4

Probability of dying between 15 and 60 years m/f (per 1 000 population): 106/44

Total expenditure on health per capita (Intl \$, 2006): 3,101

Total expenditure on health as % of GDP (2006): 9.9

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

For further information, see:

Greece health system review. C. Economou. Health Systems in Transition 2010; 12: 7

[http://www.euro.who.int/\\_data/assets/pdf\\_file/0004/130729/e94660.pdf](http://www.euro.who.int/_data/assets/pdf_file/0004/130729/e94660.pdf)

Highlights on health in Greece WHO 2004, at

[http://www.euro.who.int/\\_data/assets/pdf\\_file/0008/103220/GRE\\_Highlights.pdf](http://www.euro.who.int/_data/assets/pdf_file/0008/103220/GRE_Highlights.pdf)

Pharmaceutical pricing and reimbursement information Greece OBIG 2007, at:

[http://ppri.oebig.at/Downloads/Results/Greece\\_PPRI\\_2007.pdf](http://ppri.oebig.at/Downloads/Results/Greece_PPRI_2007.pdf)

ECORYS - Study of regulatory restrictions in the field of pharmacies, at :

[http://ec.europa.eu/internal\\_market/services/docs/pharmacy/appendices\\_en.pdf](http://ec.europa.eu/internal_market/services/docs/pharmacy/appendices_en.pdf)

Eurybase - Descriptions of National Education Systems and Policies – Greece 2009, at:

[http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/national\\_summary\\_sheets/047\\_EL\\_EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/national_summary_sheets/047_EL_EN.pdf)

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

	Y/N, number or %	Comments
<b>Community pharmacy</b>		
Number of community pharmacists	10,890 + 452	10,890 pharmacists as owners 452 pharmacists as employees
Community pharmacies	10,890	~1021 inhabitants per pharmacy.
Competences and roles of pharmacists		Standard dispensing of prescribed and OTC drugs.
Ownership of a pharmacy limited to pharmacists?	Yes	There is a limited number of branches in which the owner may hold a majority stake. The legal business form is limited.
Rules governing the distribution of pharmacies?	Yes	Minimum number of inhabitants per Pharmacy: 1500). A licence from the State public health authorities is required to open a pharmacy.
Are drugs available to the public by other channels?	No	
Persons other than pharmacists involved in practice?	Yes	The presence of a pharmacist at all time is required.
Their titles and number(s)	4032	Pharmacy Assistants
Their qualifications		
Organisation providing and validating the E&T		Providers : Private non-academic institutions Validation : Ministry of Health
Duration of studies	2 years	
Competences and roles		Supporting the pharmacist's activities. The presence of a pharmacist at all time is required.
<b>Hospital pharmacy</b>		
Number of hospital pharmacists	302	Requirements to work as a hospital pharmacist: pharmacy degree and registration from the Ministry of Health (no pre- or post-graduate specialisation). The number of hospital pharmacists per bed is low and in a typical 200-400 bed hospital may be only one or two.
Hospital pharmacies	115	
Competences and roles of hospital pharmacists		Competences : Registered Pharmacists Roles : as in other European Countries (handling of sterile products, medical devices and disposables, preparation of special preparations, etc) Hospital pharmacists may also be involved in the teaching of nurses. See also: Hospital Pharmacy in Greece, Tzimis L, Makridaki D, Eur J Hosp Pharm, 2005: <a href="http://www.eahp.eu/EJHP/EJHP-Practice/Issue-4-2005/Country-focus/Hospital-pharmacy-in-Greece">http://www.eahp.eu/EJHP/EJHP-Practice/Issue-4-2005/Country-focus/Hospital-pharmacy-in-Greece</a>
<b>Pharmaceutical and related industries</b>		
Companies: production, R&D and distribution	5	
Production only	44	
Distribution only	268	

Generic drugs only	32	4 manufacturing sites for contract manufacturing only Contacts: - Association of Greek Pharmaceutical companies – SFEE ( <a href="http://www.sfee.gr">www.sfee.gr</a> ) - Pan-Hellenic association of Pharmaceutical industry ( <a href="http://www.pef.gr">www.pef.gr</a> )
<b>Industrial pharmacy</b>		
Pharmacists in industry	144	
Competences and roles of industrial pharmacists		Competences :Registered Pharmacists Roles: as in other European countries (Production, QC/QA ,R&D ,Marketing etc)  After 1 year of working in industry a qualified pharmacist with an M.Sc. can become a qualified person; this takes 2 years for graduates from other areas (chemistry...)
<b>Other sectors</b>		
Pharmacists in other sectors	1250	
Sectors in which pharmacists are employed		Public Sector (e.g. Auditing Prescriptions and their costs) National Authority for Medicines Evaluation Public Health Care Insurance providers
Competences and roles of pharmacists in other sectors		Competences : Registered Pharmacists Roles: as in other European countries
<b>Roles of professional associations</b>		
Registration of pharmacists	Yes	The State Health Authorities register and licence pharmacists.  Requirements for licensing: <ul style="list-style-type: none"> <li>• One year traineeship</li> <li>• Pharmacy Board Examination by the Central Health Council</li> </ul> The licence and membership do not expire. The licence can be revoked in case of: <ul style="list-style-type: none"> <li>• Violation of pharmaceutical laws and regulations</li> <li>• Age &gt; 70 years</li> <li>• Resignation</li> </ul>
Quality assurance and validation of HEI courses for pharmacists	No	In process

<b>Websites</b>	
National Organisation for Medicines	<a href="http://www.eof.gr">http://www.eof.gr</a>
Ministry of Health and social solidarity	<a href="http://www.yyka.gov.gr">http://www.yyka.gov.gr</a>
Pan-Hellenic association of pharmacists	<a href="http://www.pepharm.gr">http://www.pepharm.gr</a> & <a href="http://www.pepharm.org">www.pepharm.org</a>
Pan-Hellenic Pharmaceutical Association	<a href="http://www.pfs.gr">http://www.pfs.gr</a>
Greek Ministry of Education	<a href="http://www.minedu.gov.gr">http://www.minedu.gov.gr</a>
ECORYS EU study on pharmacy	<a href="http://ec.europa.eu/internal_market/services/pharmacy_en.htm">http://ec.europa.eu/internal_market/services/pharmacy_en.htm</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 HEIs in Greece</b>	3	1. Department of Pharmacy, <a href="#">University of Athens</a> 2. Department of Pharmacy, <a href="#">University of Patras</a> 3. Department of Pharmacy, <a href="#">Aristotle University of Thessaloniki</a>
Public	3	
<b>Organisation of HEIs</b>		
Independent faculty	1	Athens
Attached to a medical faculty	2	Patras: Faculty within the School of Health Sciences Thessaloniki : Faculty within the School of Health Sciences
Do HEIs offer B + M degrees?	No	Not within the framework of the Bologna Process: graduation occurs after a 5 years seamless curriculum
<b>Greece</b>		
<b>Teaching staff</b>		
Teaching staff (nationals)	~ 90	
<b>Students</b>		
Places at entry following secondary school	~ 400	Number fixed annually at the national level.
Number of applicants for entry	NA	Number cannot be estimated since the entry process is organised at national level for all health care disciplines.
% graduating as pharmacists.	85-90%	
International students (EU)	~20	
International students (non EU)	~15	
<b>Entry requirements following secondary school</b>		
National pharmacy entrance examination	Yes	Subjects : Biology, Chemistry, Physics, Mathematics, Assay
Other form of entry requirement	Yes	Students with special health problems (5%), minorities (3%) foreigners (~10%) are accepted in agreement with Ministry of Education and Ministry of Foreign Affairs
Is there a national <i>numerus clausus</i> ?	Yes	Maximum number of places defined by the HEI and the Ministry of Education each year.
<b>Advanced entry</b>		
At which level?		Second Year
What are the requirements?		Graduates with a University degree in Chemistry, Biology, etc., through examinations in Chemistry, Biology and Physics..
<b>Fees per year</b>		
Home and EU students	None	
Others	493€ / y	
<b>Length of course</b>	<b>5 years</b>	
<b>Specialization</b>		
Do HEIs provide specialised courses?		Not within the 5 years undergraduate curriculum. There is no formal specialization but elective courses are offered in all undergraduate years. However specialised courses are provided within separate MSc programs leading to independent MSc degrees.

In which years		<p>After graduation from Pharmacy or other similar Faculties (Chemistry, Biology, Chem. Engineering, etc) students can be accepted through a specific selection process within the offered MSc programs.</p> <p>Masters degree for graduates other than Pharmacists cannot lead to professional registration and license in Pharmacy</p>
Specialized courses?	No	<p><u>At the postgraduate level</u>, several 2-year <u>M.Sc. courses</u> are offered from each Faculty or on a collaborative basis. These courses are open to Pharmacists, Chemists, Biologists, Medical Doctors, Dentists, Veterinarians, Agriculture specialists, Chemical Engineers. The curricula are generally divided into 2 semesters of courses assessed by written exams and reports, followed by 2 semesters of research project resulting in a written report and a public dissertation.</p> <p>The Postgraduate Diploma Specialisations (MSc.) for each Faculty of Pharmacy in Greece are presented below</p> <p><u>Athens</u> ( <a href="http://www.pharm.uoa.gr">http://www.pharm.uoa.gr</a> )  <u>Postgraduate specialisation</u> (2 years) is possible in the following areas:</p> <ol style="list-style-type: none"> <li>1. Industrial Pharmacy</li> <li>2. Clinical Pharmacy</li> <li>3. Synthetic Pharmaceutical Chemistry</li> <li>4. Pharmaceutical Analysis - Quality Control</li> <li>5. Pharmacognosy and Natural Product Chemistry</li> <li>6. Radiopharmaceutical Chemistry</li> </ol> <p>This can be followed by doctoral studies (&gt; 4 semesters)</p> <p><u>Thessaloniki</u> ( <a href="http://www.pharm.auth.gr">http://www.pharm.auth.gr</a> )  <u>Postgraduate Educational Program Master's Degree in Pharmaceutical Sciences</u>  Areas:</p> <ol style="list-style-type: none"> <li>1. Medicinal Chemistry, Development of Pharmaceutical Compounds</li> <li>2. Pharmaceutical Technology</li> <li>3. Pharmaceutical Biotechnology - Molecular diagnostics</li> <li>4. Pharmacology and therapeutics</li> <li>5. Pharmacognosy - Plant pharmaceutical products</li> </ol> <p><u>Patras</u> <a href="http://www.pharmacy.upatras.gr/">http://www.pharmacy.upatras.gr/</a>  <u>Postgraduate Diploma of Specialization</u>  Currently there are five specializations available:</p> <ol style="list-style-type: none"> <li>1. Industrial Pharmaceutics and Drug Analysis</li> <li>2. Pharmaceutical Chemistry-Natural Products: Design, Synthesis and Analysis of Bioactive Compounds</li> <li>3. Molecular Pharmacology - Clinical Pharmacy</li> <li>4. Pharmaceutical Biotechnology and Biomedicine</li> <li>5. Pharmaceutical Marketing</li> </ol>
<b>Athens</b>		
<b>Teaching staff</b>		
Number of teaching staff (nationals)	40	
<b>Students</b>		
Entry following	150	

secondary school		
% graduating as pharmacists.	~ 90%	
International students (EU)	~ 10	
International students (non EU)	~ 5	
<b>Advanced entry</b>		
At which level?		Second Year
What are the requirements?		Graduates with a University degree in Chemistry, Biology, etc., through examinations in relevant subjects (Chemistry, Biology and Physics).
<b>Fees per year</b>		
Home and EU students	None	
Others	493€ / y	
<b>Length of course</b>	<b>5 years</b>	
<b>Specialization</b>		
Specialized courses?	No	Not within the 5 years undergraduate curriculum. There is no formal specialization but elective courses are offered in all undergraduate years. However specialised courses are provided within separate MSc programs leading to independent MSc diplomas. (see above)
<b>Past and present changes in E&amp;T</b>		
Major changes since 1999?	Yes	Minor changes in the curriculum have been implemented. New Laboratory Practice has been implemented. Optimisation of elective courses.
Major changes envisaged before 2019?	Yes	Several ideas are under discussion, e.g. Diploma Thesis is still elective in Faculty of Pharmacy (UoA) and it is planed to be compulsory.
<b>Is Athens typical of HEIs in Greece?</b>	Yes	

<b>Websites</b>	
Athens School of Pharmacy	<a href="http://www.pharm.uoa.gr">http://www.pharm.uoa.gr</a>
Thessaloniki School of Pharmacy	<a href="http://www.pharm.auth.gr">http://www.pharm.auth.gr</a>
Patras Departmnt of Pharmacy	<a href="http://www.pharmacy.upatras.gr/">http://www.pharmacy.upatras.gr/</a>

## Chapter 3. Teaching and learning methods

Student contact hours for lectures, tutorials, practicals:

- 1<sup>st</sup> through 4<sup>th</sup> year ~660 contact hours/year
- 5<sup>th</sup> year:
  - 65 contact hours plus diploma thesis or 4 elective courses
  - Traineeship:
    - 6 months community
    - 3 months hospital
    - 3 months in community, or hospital
    - Final examination and validation of traineeship for Pharmacist registration is controlled by the Ministry of Health at a national level.

For this and the following chapter 4 see:

<http://www.pharm.uoa.gr>

<http://www.pharm.auth.gr>

<http://www.pharmacy.upatras.gr/>

## Chapter 4. Subject areas

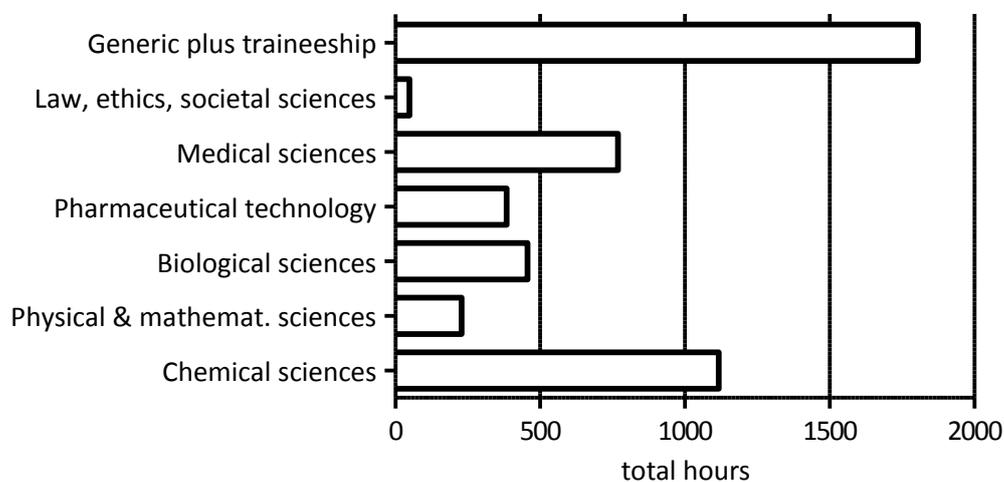
### Athens.

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
CHEMSCI	182	510	193	260	-	1145	39.9
PHYSMATH	169	-	-	-	-	169	5.8
BIOLSCI	108	67	153	86	-	414	14.2
PHARMTECH	-	-	120	120	-	240	8.2
MEDISCI	156	66	156	56	29	463	15.9
LAWSOC	39	-	-	-	39	78	2.7
GENERIC	18	39	39	156	156	408	14.0
Subtotal						2917	100
GENERIC + TRAINEESHIP	18	39	39	156	1800+156	2208	

Subject area	Total hours
CHEMSCI	1145
PHYSMATH	169
BIOLSCI	414
PHARMTECH	240
MEDISCI	463
LAWSOC	78
GENERIC	408
GENERIC + TRAINEESHIP	2208

## Patras.

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
CHEMSCI	168	420	360	168	-	1116	34.9
PHYSMATH	168	-	-	-	60	228	7.1
BIOLSCI	216	168	-	72	-	456	14.2
PHARMTECH	-	-	108	252	24	384	12.0
MEDISCI	36	168	252	312	-	768	24.0
LAWSOC	-	-	-	-	48	48	1.5
GENERIC	132	72	-	-	-	204	6.4
						<b>3204</b>	<b>100</b>
<b>GENERIC + TRAINEESHIP</b>	132	72	-	-	1600	<b>1804</b>	



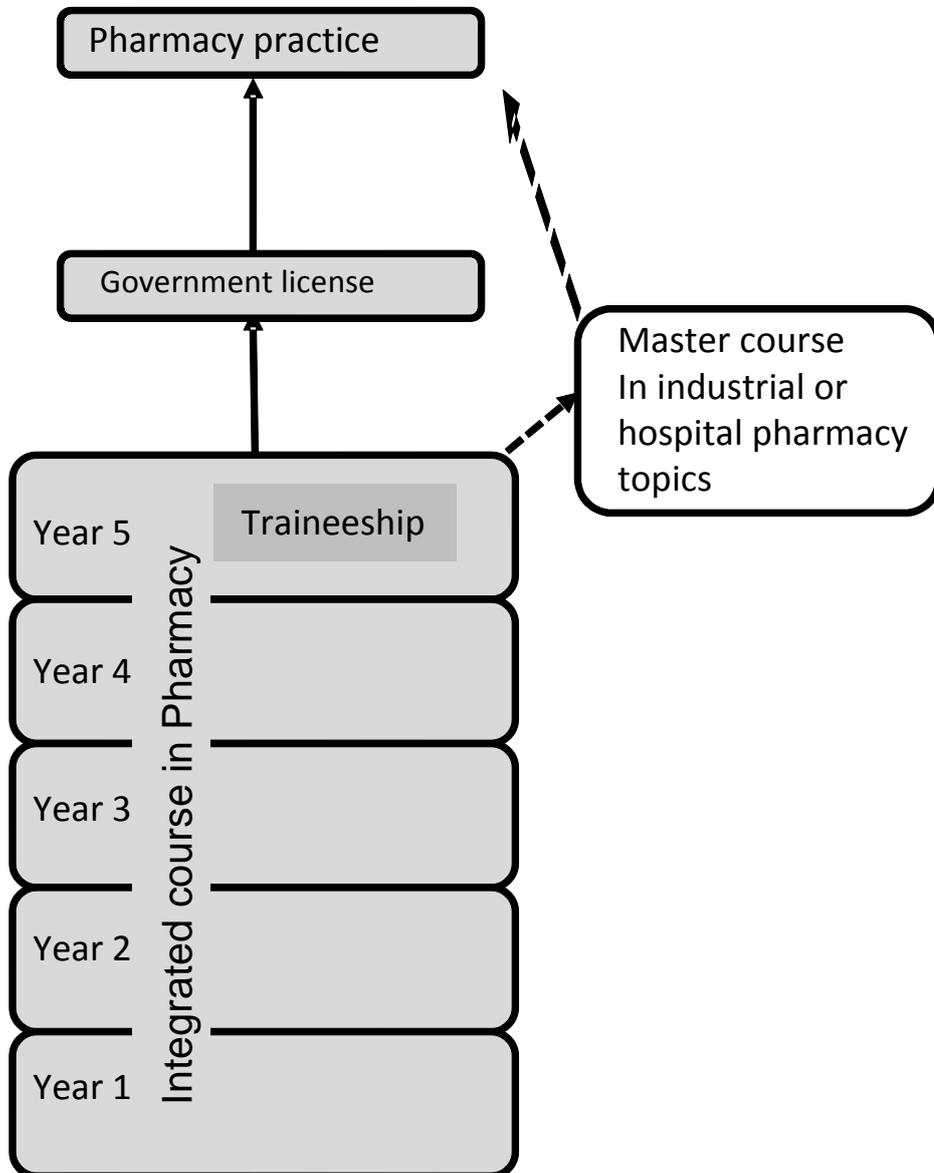
## Chapter 5. Impact of the Bologna principles

Bologna principle	Is the principle applied? Y/N or partially	How is it applied? Does Athens have multilateral recognition and agreements? Other comments.
<b>1. Comparable degrees / Diploma Supplement</b>	Yes	Within ERASMUS framework several bilateral agreements have been established with many European Faculties of Pharmacy. Within this context mutual ECTS recognition is compulsory
<b>2. Two main cycles (B and M)</b>	No	
<b>3. ECTS system of credits / links to LLL</b>	ECTS: Yes LLL: No	
<b>4. Obstacles to mobility</b>		<p>General obstacles to mobility are:</p> <ul style="list-style-type: none"> <li>• Language</li> <li>• Lodging</li> <li>• Finances</li> </ul> <p>The Faculty of Pharmacy UoA considers language the major obstacle for incoming students. However, the Faculty orients the students to courses which can be examined in English and principally towards research project and/or traineeships in hospital pharmacies</p>
<b>5. European QA</b>	Not yet	QA in process at the National level
<b>6. European dimension</b>		The Faculty of Pharmacy UoA participates in the European Ph.D. in Medicinal Chemistry.
<b>ERASMUS staff exchange to Athens from elsewhere</b>		1 member-month per year
<b>ERASMUS staff exchange from Athens to other HEIs</b>		1 member-month per year
<b>ERASMUS student exchange to Athens from elsewhere</b>		48 student months: 8 students x 6 months
<b>ERASMUS student exchange from Athens to other HEIs</b>		72 student months: ~12 students x 6 months

## 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 <u>five years' duration...</u> ”	This applies.
“ <u>...four years of full-time theoretical and practical training at a university or at a higher institute of a level recognised as equivalent, or under the supervision of a university;</u> ”	5 year curriculum
“ <u>...six-month traineeship in a pharmacy which is open to the public or in a hospital, under the supervision of that hospital's pharmaceutical department.</u> ”	12 months traineeship
“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> ”	25% practice and 75% theory
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.	This applies.  Newer topics should be considered, for example: pharmaco-economics, logistics and biotechnological production and control (monoclonal antibodies etc)

## The Greek pharmacy education and training scheme.





Education and Culture DG

Lifelong Learning Programme

**PHARMINE**  
*Pharmacy Education  
in Europe*

**PCN**

*Pharmacolor  
Consultants  
Nancy*



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**NATIONAL AND KAPODISTRIAN  
UNIVERSITY OF ATHENS**

**FACULTY OF PHARMACY**



**UNIVERSITY OF TARTU**



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