

*Pharmacy education & training in*

# TURKEY

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 Europe. 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.

Pharmacy education is provided by 12 public faculties of pharmacy and 4 private faculties (*3 of them are very recently established*) in Turkey. Students are selected via a centralized countrywide exam. Up to recently, education period was 4 years ending with a Bachelor of Science (B.Sc.) degree. Since the academic year 2005-2006, the duration of pharmacy education become 5 years, and graduates now receive a Master of Science (M.Sc) degree. They may continue their education for further M.Sc. and/or Ph.D. degrees in several fields of pharmaceutical sciences, and graduate studies are coordinated by the Graduate Institute of Health Sciences.

The principal education philosophy in faculties of pharmacy is to provide a sound professional education and training corresponds with the contemporary state and standard of pharmaceutical sciences supported by laboratory practices and traineeship. During the pharmacy education, students are provided with basic and professional knowledge on drug sources (natural, semi-synthetic and synthetic), production of pharmaceutical raw materials, pharmaceutical formulation and technology, therapeutic and adverse effects of drugs and pharmaceutical care. Pharmacy graduates may practice in community or hospital pharmacies, in pharmaceutical industry or in academic fields.

Students should acquire 200 credits in order to be graduated. 180 credits have to be collected from compulsory courses and traineeship, and 20 credits from compulsory elective courses 4 of which are chosen from fine arts or sports and the rest from pharmaceutical subjects. Traineeship is organized in 5 different periods with a total duration of more than 6 months, and conducted in community pharmacies, hospital pharmacies, and industry or other production/ research laboratories.

Basic courses are organized as lectures and practicals corresponding with the needs of the pharmaceutical practice in the country as well as in the European context. For the time being, the only specialization process is to allow students to choose either Academia/Industry or Pharmacy/Hospital pharmacy sections in the last year of the education. That is, in the first semester of the 5th year of the curriculum, along with completing a graduation project, students are offered two

types of interdisciplinary courses: (1) Academia/Industry or (2) Pharmacy/Hospital pharmacy oriented courses. However, they all receive the same degree and diploma. Since almost 80% of the pharmacy graduates are going to the practice of community pharmacy, further specialization is not yet considered. In fact, most of the students prefer the Pharmacy/Hospital pharmacy section courses. On the other hand, pharmaceutical industry usually prefers to employ those who have a further M.Sc. or PhD. degree, and hospital pharmacy practice does not yet require further specialization, although pharmaceutical care is quite attractive for more students now and a patient-oriented education movement is progressing.

There is no exact validation for traineeship. However, students receive a list of minimum or basic information/knowledge/information (SOPs) that should be acquired during their traineeship period and they must receive the approval of the responsible person of the training institution. Overall evaluation of each traineeship period and grading was made on their performance report and by a verbal and written exam conducted by the faculty. As discussed in the following sections, CPD is not compulsory, but developing progressively. In fact, the Pharmacists Association (TEB or TPA) has conducting CPD courses since at least a decade. Bologna and 2005/36/EC are principally accepted as a goal at the State level as well as by the whole high education system, adaptation is a continuous process, but full transformation is taking time.

## Introduction.

### Statistics for Turkey.

Total population: 73,922,000

Gross national income per capita (PPP international \$): 8,410

Life expectancy at birth m/f (years): 71/75

Healthy life expectancy at birth m/f (years, 2003): 61/63

Probability of dying under five (per 1 000 live births): 26

Probability of dying between 15 and 60 years m/f (per 1 000 population): 153/91

Total expenditure on health per capita (Intl \$, 2006): 645

Total expenditure on health as % of GDP (2006): 5.6

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 Turkey.

Pharmacy economics: see country file of PPRI Pharma Profile, for Turkey at:

[http://ppri.oebig.at/Downloads/Results/Turkey\\_PPRI\\_2007.pdf](http://ppri.oebig.at/Downloads/Results/Turkey_PPRI_2007.pdf)

The Turkish health care system is neither a National Health Service nor a Social Health Insurance System but both. Concrete reforms have been made since 2003 towards introducing a General Health Insurance Scheme (GHIS), a family practitioner scheme and establishing autonomous hospitals. Turkey has a deconcentrated public administration governance mechanism i.e. the lowest level of decentralization. The State Planning Organization is responsible for strategic planning of the health care system. The Ministry of Health (MoH) is the coordinating body for the health care delivery activities and it is the main authority in the provision of primary, secondary and tertiary care.



Pharmaceutical expenditures have been the most speculated area of health expenditure estimations ranging from 40-60% of total health care expenditures. Pharmaceutical policy is collectively shaped by various authorities and the sector is governed by a set of policies and legislations. The MoH General Directorate of Pharmaceuticals and Pharmacies (GDPP) is the main authority in market authorization, pricing, legal classification and inspection. The basic rules and regulations for all medicinal products are set in the Act on Medicinal Products for Human Use (Act No 1262, Official Gazette No 809, 26.05.1928) various articles of which are amended to meet the requirements in time. The directorate is supported by a number of commissions which are comprised of academicians, pharmaceutical scientists, clinicians, other related experts and representatives of the Ministry and other related organizations. The commissions evaluate the documents provided by pharmaceutical manufacturers and their decisions form the basis for marketing and approval. Market authorization is granted only if the company is registered in Turkey and foreign importers can only import their pharmaceuticals through a company registered in Turkey that follows the rules and regulations of Commercial laws. In line with other departments of the MoH, the GDPP also initiated arrangements for harmonization of EU procedures as Turkey is a potential member state. During this process, modifications for authorization regulations were made in 2005 to allow a 6-year marketing exclusivity under certain conditions. Accordingly, protection is provided only for new molecules authorized in Turkey and the protection term will effectively begin from the first authorization date in any of the EU Customs Union Zone countries. The National Patent Act is effective since January 1, 1999, and implemented retrospective from January 1 1995. On the other and, a National Institute of Medicine is now being established according to the last policy document of “Transformation in Health” and will be responsible for making policies and authorization and will be the regulatory body for production, promotion, marketing and research and development activities.

The Turkish pharmaceutical industry is comprised of both research based and generic manufacturers. There are approximately 300 drug companies 50 of which have production and research facilities. The Turkish pharmaceutical market is one of the fastest growing markets around the world. Health policies and social security coverage has changed significantly during the past years, paving the way for a solid growth in the pharmaceutical market. Legislation regulating the industry is in line with European Union norms and regulations.

The distribution channel of pharmaceuticals starts from manufacturers to wholesalers and to pharmacies. Pharmaceuticals are dispensed through pharmacies. Doctors are allowed to dispense only if there is not a pharmacy within reach of the community. Drug stores and supermarkets are not allowed to sell pharmaceuticals and this is valid both for POMs and OTCs. Pharmacy chains and mail order/internet pharmacies are forbidden as well.

Pharmacies are private entities in Turkey and hospitals have their own pharmacies only to serve in-patients. Activities of pharmacies and establishment and ownership rules are regulated by Act on Pharmacists and Pharmacies (Act No 6197) and Decree on Pharmacies and Pharmacy Services. Only Turkish citizens with a diploma from a Faculty of Pharmacy can open a pharmacy. Pharmacists are organized around the “Turkish Pharmacists Association”. This is a strong and powerful NGO organized in 81 provinces. The provincial branches have a role in the approval of opening new pharmacies within the boundaries of the province. The association is also an active stakeholder within the health policy-making framework. Pharmacies are remunerated by social security organizations, state and private out-of-pocket payments. There were 24,612 pharmacies in 2006 with ~3000 inhabitant per pharmacies.

Panos Kanavos, Ismail Üstel, Joan Costa-Font. Pharmaceutical Reimbursement Policy in Turkey. [www.suvak.org.tr](http://www.suvak.org.tr)

Pharmaceutical Pricing and Reimbursement Information –TURKEY Pharma Profile

June 2007. [http://ppri.oebig.at/Downloads/Results/Turkey\\_PPRI\\_2007.pdf](http://ppri.oebig.at/Downloads/Results/Turkey_PPRI_2007.pdf)

Ronan De Kervenoael, Ulf Nils. Faces of Pricing and profit planning at the doorstep of the EU:Government pricing policy in the innovative pharmaceutical sector in Turkey. <http://www.jimsjournal.org/7.pdf>

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

	Y/N, number or %	Comments
<b>Community pharmacy</b>		
Community pharmacists	~24.000	( <a href="http://www.turkstat.gov.tr/IcerikGetir.do?istab_id=5">www.turkstat.gov.tr/IcerikGetir.do?istab_id=5</a> (24.612 for the year 2006) also in <a href="http://www.teb.org.tr">http://www.teb.org.tr</a> .
Community pharmacies	~24.000	3000 inhabitants/pharmacy-pharmacist
Competences and roles of pharmacists		<p>Pharmacists work as pharmacy owners, managers, and responsible pharmacists. Competences include administrative issues, customer service, supplying prescription medicines, giving advice on medicines, education of pharmacy staff, multidisciplinary cooperation with other health care professionals</p> <p>Bioequivalent products are allowed to be substituted by the pharmacists, the application should be according to the rules of Ministry of Health and to the lists provided by the Social Security Institution.</p> <p>Diagnostic services: blood pressure, sugar are not officially allowed.</p> <p>Pharmacists may take part in health promotion campaigns (smoking, obesity...)</p>
Ownership of a pharmacy limited to pharmacists?	Yes	<p>According to the law 6197 on Pharmacists and Pharmacies (date of the Law: 1953) Pharmacists are the only competent professionals having right to provide pharmaceuticals, except veterinarians who have right to sell veterinary medicines in their offices.</p> <p><a href="http://www.mevzuat.adalet.gov.tr/html/967.html">http://www.mevzuat.adalet.gov.tr/html/967.html</a> (not in eng) see also (<a href="http://www.teb.org.tr/en/?modul=structure">http://www.teb.org.tr/en/?modul=structure</a>)</p>
Rules governing the distribution of pharmacies?	No	
Healthcare products by other channels	No	<p>In Turkey, medicines are sold to the public only via pharmacies. Veterinary drugs are available also from veterinarians. There are no internet pharmacies.</p>
Other persons involved in practice?	40,000	<p>Pharmacy technicians. However, only pharmacists are responsible to dispense/sell medicines and counsel patients on medicines.</p>
Organisation providing and validating the E&T		<p>Pharmacy technicians are high school graduates. Further education is provided to these individuals by TEB (Turkish Pharmacists' Association) courses (1.5-2 months).</p> <p>However, recently, a 2-year pre-license education has been created in Universities. One in Hacettepe University is actively recruiting students following Higher Education Exam.</p>
Duration	2 years	
Subject areas		<p>Main subjects are management, accountancy, computer applications, regulations and ethics, drug dosage forms and medical devices, mathematics, public health, public relations and communication, practical drug and health information, cosmetology, practical courses</p>
Competences and roles		<p>Main task is assisting the pharmacist in customer service, and stock management and handling.</p>

<b>Hospital pharmacy</b>		
Hospital pharmacists	1280	
Hospital pharmacies	1200	Approximate number counting public and private hospitals of more than 50 beds.
Competences and roles of hospital pharmacists		Main task is logistics, purchasing of drugs and medical materials, production of patient-specific medicines (e.g. cytotoxic preparations). Curriculum improvements, in the faculties of pharmacy, have already been started to provide more opportunities to train the students in the real ward environments, and thus to prepare them for a better hospital pharmacy services as well as to motivate the graduates to provide such services.
<b>Pharmaceutical and related industries</b>		
Companies with production, R&D and distribution	43	Novartis, Abbott, Pfizer, Roche, Sanofi-Aventis, Bayer,..... Abdi İbrahim ( <a href="http://www.abdiibrahim.com.tr/english/index.asp">http://www.abdiibrahim.com.tr/english/index.asp</a> ) Bilim ( <a href="http://www.bilimilac.com.tr">www.bilimilac.com.tr</a> ); Sanovel : <a href="http://www.sanovel.com.tr/">http://www.sanovel.com.tr/</a>  See also <a href="http://www.aifd.org.tr">www.aifd.org.tr</a> (Association of Research-Based Pharmaceutical Companies) (AİFD) <a href="http://www.ieis.org.tr">http://www.ieis.org.tr</a> (Pharmaceutical Manufacturers Association of Turkey (IEIS) <a href="http://www.tisd.org.tr">http://www.tisd.org.tr</a> (Turkish Manufacturers Association)  For the whole list of Turkish drug companies English websites: <a href="http://www.medilexicon.com/pharmaceuticalcompanies.php">http://www.medilexicon.com/pharmaceuticalcompanies.php</a> <a href="http://www.medicines1.com/pharmaceutical-companies/turkey.html">http://www.medicines1.com/pharmaceutical-companies/turkey.html</a>
Companies with production only	35	For the whole list of Turkish drug companies an English websites: <a href="http://www.medilexicon.com/pharmaceuticalcompanies.php">http://www.medilexicon.com/pharmaceuticalcompanies.php</a> <a href="http://www.medicines1.com/pharmaceutical-companies/turkey.html">http://www.medicines1.com/pharmaceutical-companies/turkey.html</a>
Companies with distribution only	37	More than 200 wholesalers exist Selçuk Ecza Deposu: <a href="http://www.selcukecza.com.tr">http://www.selcukecza.com.tr</a> Galenos Ecza Deposu: <a href="http://www.galenosecza.com.tr/">http://www.galenosecza.com.tr/</a>
Companies producing generic drugs only	43	Almost all of the drug companies produce also generic drugs.
<b>Industrial pharmacy</b>		
Pharmacists working in industry	88	Pharmaceutical companies used to hire mostly chemical engineers and chemists. The number of pharmacists employed in the pharmaceutical industry started to rise in the past few years.
Competences and roles of industrial pharmacists		Pharmacists work in the areas of registration, quality assurance and quality control, clinical research, R&D and marketing areas. Recently those with masters degree or Ph.D. are preferred.  The qualified person status as defined by the EU directives is valid in Turkey but not always restricted to pharmacists
<b>Other sectors</b>		
Number of pharmacists working in other sectors	*SGK and **IEGM: 1355; Other (including academics):	*SGK: National Social Insurance Institution: <a href="http://www.sgk.gov.tr/wps/portal/tr">http://www.sgk.gov.tr/wps/portal/tr</a> in English: <a href="http://www.sgk.gov.tr/wps/portal/en">http://www.sgk.gov.tr/wps/portal/en</a> ** IEGM Ministry of Health - General Directorate of Pharmacy and Pharmacists <a href="http://www.iegm.gov.tr/Default.aspx?sayfa=anasayfa">http://www.iegm.gov.tr/Default.aspx?sayfa=anasayfa</a>

	1113	in English: <a href="http://www.ieg.gov.tr/Default.aspx?sayfa=anasayfa&amp;lang=en">http://www.ieg.gov.tr/Default.aspx?sayfa=anasayfa&amp;lang=en</a>
Sectors in which pharmacists are employed		- Administrative jobs: e.g. pharmacists working in Turkish national health authorities (Ministry of Health, IEGM, SGK) - Academic sector, e.g. pharmacists working in Universities and research organizations * Other/Un-specified
Competences and roles of pharmacists employed in other sectors		Academic positions involve teaching, research, administration, management and leadership. Pharmacists working in IEGM and SGK are involved in some specific areas, such as marketing authorizations, pricing and re-imburements of medical products, IT-issues such as e-prescriptions, e-applications and related databases, medicines information, researchers, managers,
<b>Roles of professional associations</b>		
Registration of pharmacists	Yes	Turkish Pharmacists Association (TEB). From the TEB website ( <a href="http://www.teb.org.tr/en/">http://www.teb.org.tr/en/</a> ): Turkish Pharmacists Association is established in Istanbul, due to the Law of Turkish Pharmacists Association, which is published on Official Journal of February 2nd, 1956. The association gained the identity of being a constitutional corporation according to the related part of Fundamental Law. Our association is managed according to the related Law, and the organs of the association are elected among its members.  Turkish Pharmacists Association works so as to supply the mutual needs of pharmacists all over the country, to ease the professional practices, to improve the profession due to general benefits of pharmacy profession, build and protect a relation web consisting of respect and confidence among its members. The centre of the association moved from Istanbul to Ankara according to the change of Law in 1984.  All over Turkey, there are 51 (fifty one) pharmacist chambers established. The chambers are directly attached to TPA (Turkish Pharmacists Association) by Law. TPA serves its 26 thousand members with 60 employees from the centre in Ankara. TPA gives great importance to global improvement and sharing knowledge and experience on international area. TPA is member of FIP, EPHEA, Euro Pharm Forum; and also observer member of PGEU.  Each community pharmacist should be registered to the corresponding Chamber of Pharmacists in their geographical region.
Creation of pharmacies and territorial distribution	No	Territorial distribution is not controlled yet; however, the Turkish government has been working on a legislation proposal on this for the past few years.
Ethical and other aspects of professional conduct	Yes	There is an Ethical Committee of TEB, and also individual Chambers of Pharmacists have Ethical Committees that counsel and evaluate their members professional performance with regards to the reimbursement issues, patient counselling, patient care and communication as well as pharmaceutical counterfeiting
QA, validation of HEI courses for pharmacists	No	HEIs are in the process of establishing their own, the situation will certainly change as the adaptation procedure of EU regulations is completed

<b>Websites</b>	
Pharmaceutical Manufacturers Association of Turkey (IEIS)	<a href="http://www.ieis.org.tr">www.ieis.org.tr</a> in English: <a href="http://www.ieis.org.tr/asp_pages/index.asp">http://www.ieis.org.tr/asp_pages/index.asp</a>
Association of research-based pharmaceutical companies	<a href="http://www.aifd.org.tr">www.aifd.org.tr</a> in English: <a href="http://www.aifd.org.tr/en/anasayfa.aspx">http://www.aifd.org.tr/en/anasayfa.aspx</a>
Turkish Ministry of Health	<a href="http://www.saglik.gov.tr">www.saglik.gov.tr</a> in English : <a href="http://www.saglik.gov.tr/EN/Default.aspx?17A16AE30572D313AAF6AA849816B2EF4376734BED947CDE">http://www.saglik.gov.tr/EN/Default.aspx?17A16AE30572D313AAF6AA849816B2EF4376734BED947CDE</a>
TPA (Turkish pharmacists' association) Willy Brandt S. No:9 Çankaya Ankara 06690 TURKEY Tel : +90-312-409 81 00 Fax : +90-312-409 81 09	<a href="http://www.teb.org.tr">www.teb.org.tr</a> in English : <a href="http://www.teb.org.tr/en/teb@teb.org.tr">http://www.teb.org.tr/en/teb@teb.org.tr</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 Turkey</b>	146 (total HEIs) 14 pharmacy HEIs	Statistics are taken from Higher Education Council of Turkey (YÖK). <a href="http://www.yok.gov.tr">www.yok.gov.tr</a>  In English: <a href="http://www.yok.gov.tr/en/">http://www.yok.gov.tr/en/</a>
Pharmacy HEIs : public	11	<ol style="list-style-type: none"> <li>1. <a href="http://www.anadolu.edu.tr/akademik/fak_ecz/eindex.htm">Anadolu University</a> - Faculty of Pharmacy,</li> <li>2. <a href="http://www.pharmacy.ankara.edu.tr/">Ankara University</a> - Faculty of Pharmacy,</li> <li>3. <a href="http://beta.atauni.edu.tr/university/?ln=en&amp;lp=Department.en&amp;f_id=103">Atatürk University</a> - Faculty of Pharmacy,</li> <li>4. <a href="http://pharmacy.ege.edu.tr">Ege University</a> - Faculty of Pharmacy,</li> <li>5. <a href="http://www.pharmacy.gazi.edu.tr">Gazi University</a> - Faculty of Pharmacy,</li> <li>6. <a href="http://www.eczacilik.hacettepe.edu.tr/">Hacettepe University</a> - School of Pharmacy,</li> <li>7. <a href="http://www.istanbul.edu.tr/eczacilik/">University of Istanbul</a> - Faculty of Pharmacy,</li> <li>8. <a href="http://pharmacy.marmara.edu.tr/">Marmara University</a> - Faculty of Pharmacy</li> <li>9. <a href="http://www.mersin.edu.tr/fakulte.php?id=1&amp;tip=1">University of Mersin</a> - Faculty of Pharmacy,</li> <li>10. <a href="http://pharmacy.erciyes.edu.tr/">Erciyes University</a> - Faculty of Pharmacy,</li> <li>11. <a href="http://iys.inonu.edu.tr/?web=eczacilik">Inönü University</a> - Faculty of Pharmacy,</li> </ol> <p>(Karadeniz Teknik University- Faculty of Pharmacy, (currently not in education))</p>
Private	4	<ol style="list-style-type: none"> <li>1. Yeditepe Univesity: <a href="http://www.yeditepe.edu.tr/?&amp;language_id=2">http://www.yeditepe.edu.tr/?&amp;language_id=2</a></li> <li>2. BezmialemUniversity: - <a href="http://www.marmarademo.com/bezm/index.php?option=com">www.marmarademo.com/bezm/index.php?option=com</a></li> <li>3. Medipol University: <a href="http://www.medipol.edu.tr/Pages/Academic/Faculty-of-Pharmacy/263.aspx">http://www.medipol.edu.tr/Pages/Academic/Faculty-of-Pharmacy/263.aspx</a></li> <li>4. Yenyüzyıl University: very recent, no website</li> </ol>
<b>Organisation of HEIs</b>		
Independent faculty	Yes	
Do HEIs offer B + M degrees?	Yes	HEIs offer M. Pharm. for its own students having a B. Pharm. degree
<b>Turkey</b>		
<b>Teaching staff</b>		
Number of teaching staff	546	
<b>Students</b>		
Number of entry places	1423 in total	As of 2008.

Number of applicants for entry		Applications are on the basis of students' points in Higher Education Exam (University Entrance Exam) which is a general exam after high school graduation, mandatory for all students applying to all fields. Therefore application numbers cannot be specified. Pharmacy faculty quotas are given above.
Graduates becoming registered pharmacists.	783/year	As of 2008 As already mentioned, there is a very tough university entrance exam and the system sometimes does not allow the students to choose the right place for themselves. So that some tries to take the exam again and quit. Some continues but fails, etc... However, the discrepancy is mainly coming from the increasing number of pharmacy faculties in the last few years and elevation of the quota by YOK
Number of international students		Cannot give a number: Not many from Europe Some (roughly 40-50) from Asian and African countries
<b>Entry requirements (beginning of S1 of B1, following secondary school)</b>		
Specific pharmacy-related, national entrance examination	No	Having completed the nationwide general entrance exam, students make application to pharmacy faculties based on their points, and the acceptance is dependent on the faculty quota.
Is there a national <i>numerus clausus</i> ?	No	Each institution sets its individual <i>numerus clausus</i> approved by Higher Education Council (YOK).
<b>Advanced entry</b>		
At which level?		2 <sup>nd</sup> year, 3 <sup>rd</sup> year: Vertical entry (from other Faculties of Pharmacy)  2 <sup>nd</sup> Year: Horizontal entry (from other faculties of health sciences which offer relevant courses during the 1 <sup>st</sup> year e.g. from Faculty of Medicine or Biology)
What are the requirements?		High academic average in the 1 <sup>st</sup> year courses: min. 3.00/4.00 High General Entrance Exam points
Specific requirements for international students (EU or non EU).		Language skills requirements for B. Sc. and M. Sc. Students complete a 1-year preparatory course in Turkish organized by Ministry of National Education.  Proof of proficiency in English (TOEFL or other) is also required.
<b>Fees per year (public, national universities)</b>		
For home students	250€/year	
For foreign students	900€/year	
<b>Length of course</b>	<b>3+2</b>	<b>Total 5 years seamless, integrated degree course</b>
<b>Specialization</b>		
Specialized courses?	Yes	
In which years?	5 <sup>th</sup> year	
In which specialisation (industry, hospital...)?		In the 5 <sup>th</sup> year of the curriculum, along with the graduation project, students are offered two types of specialized courses: (1) Academia/industry section or (2) Pharmacy/hospital pharmacy section)
Numbers in each specialization?	90% H-P 10% A-I	As of 2009
<b>Past and present changes in E&amp;T</b>		
Have there been any major changes since 1999?	Yes	Pharmacy education which used to be a 4 year course has been increased to 5 years, and orientation programmes with specialized courses have been started



Are any major changes envisaged before 2019?	Yes	Full compliance with the Bologna initiative, and reduction of student quotas in Pharmacy Faculties
<b>Hacettepe</b>		
<b>Teaching staff</b>		
Number of teaching staff (nationals)	82	
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	5	Some universities hire professional pharmacists from TEB, AEO, SGK and IEGM to teach specific legislations and procedures for the 5 <sup>th</sup> year students who have selected "Pharmacy/ Hospital Pharmacy" section for their last year orientation programme. This application is currently practiced in only Hacettepe University
<b>Students</b>		
Entry places	109	As of 2008
Graduates that become professional pharmacists.	105	As of 2008
What are the student numbers in each specialization?	Number: 70 H-P 11 A-I	Numbers corresponding to 2009-2010 education year
Is Hacettepe typical of all HEIs in the country?	Yes	

<b>Websites</b>	
Higher Education Council of Turkey (YÖK).	<a href="http://www.yok.gov.tr">www.yok.gov.tr</a> In English: <a href="http://www.yok.gov.tr/en/">http://www.yok.gov.tr/en/</a>
Hacettepe University	<a href="http://www.eczacilik.hacettepe.edu.tr/">http://www.eczacilik.hacettepe.edu.tr/</a>

### Chapter 3. Teaching and learning methods

#### Student hours - Hacettepe

Method	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<b>HEIs courses</b>						
Lecture	518	406	308	294	112	<b>1638</b>
Practical	168	168	336	224		<b>896</b>
Project work					56	<b>56</b>
<b>Subtotal</b>	<b>686</b>	<b>574</b>	<b>644</b>	<b>518</b>	<b>168</b>	<b>2590</b>
<b>Traineeship</b>						
Hospital				20 (bedside training in wards)		<b>20</b>
Community			210		490	<b>700</b>
Industrial				210		<b>210</b>
Other		10 (at the faculty)				<b>10</b>
<b>Subtotal</b>	<b>686</b>	<b>584</b>	<b>854</b>	<b>748</b>	<b>658</b>	<b>3530</b>
<b>Electives</b>						
Compulsory	28	28	28	84	84	<b>252</b>
<b>Subtotal</b>	<b>714</b>	<b>612</b>	<b>882</b>	<b>832</b>	<b>742</b>	<b>3782</b>

Lectures and project work are in the first semester of the 5<sup>th</sup> year, and the whole last semester of the 5<sup>th</sup> year is devoted to the traineeship in a community pharmacy.

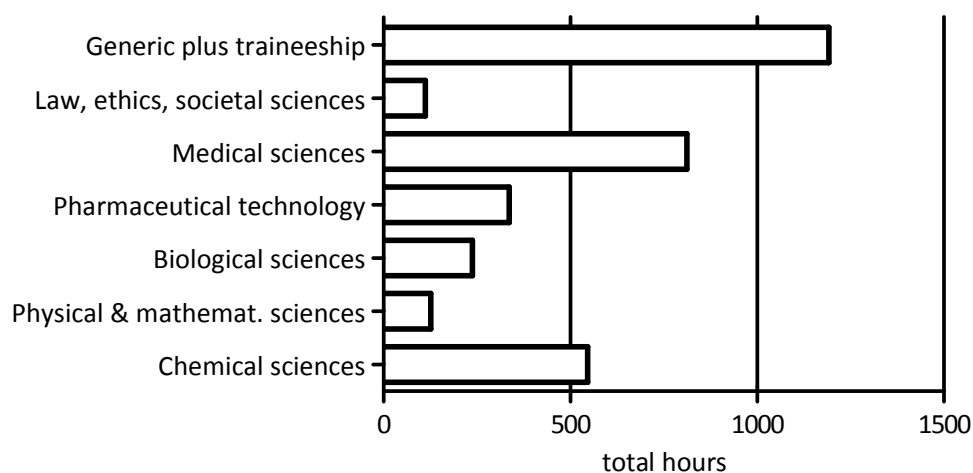
## Chapter 4. Subject areas

Student hours						
Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	Total
CHEMSCI	154	182	140	70		546
PHYSMATH	126					126
BIOLSCI	42	126	70			238
PHARMTECH		84	140	112		336
MEDISCI	140	126	266	280		812
LAWSOC	56			56		112
GENERIC	168	56	28			252
TRAINEESHIP		10	210	230	490	940
GENERIC + TRAINEESHIP	168	66	238	230	490	1192
ELECTIVES	28	28	28	84	84	252
Specialization courses-elective					112	112
PROJECT					56	56
<b>TOTAL</b>	<b>714</b>	<b>612</b>	<b>882</b>	<b>832</b>	<b>742</b>	<b>3782</b>

The hours calculated in every column, is the time scheduled for lectures, assignments and group works. The time student use for individual work is not calculated here.

However, students have to make 30 ETCS each semester, so that the whole curriculum is 300 ECTSs.

Student hours by subject area



## Chapter 5. Impact of the Bologna principles

Bologna principle	Y/N	Comments.
1. Comparable degrees / Diploma Supplement	No	It may be discussed in the future
2. Two main cycles (B and M) <u>with entry and exit at B level</u>	No	It was not easy to extend the pharmacy education to 5yrs which was 4 yrs before (the first graduates of 5 year duration were produced only this summer) and to adapt the curriculum. So that B/M was not an issue up to now.
3. ECTS system of credits / links to LLL	No	CPD/LLL in Turkey is developing progressively
4. Obstacles to mobility	Partial	The main obstacles to outgoing mobility are language, finance, lodgings. For incoming mobility the main obstacle is the language
5. European QA	No	
6. European dimension		For graduate programs, with co-direction of theses.
<b>ERASMUS staff exchange to your HEI from elsewhere</b>		Number of staff months: 2
<b>ERASMUS staff exchange from your HEI to other HEIs</b>		Number of staff months: 6
<b>ERASMUS student exchange to your HEI from elsewhere</b>		Number of student months: 3 to 6
<b>ERASMUS student exchange from your HEI to other HEIs</b>		Number of student months: 6 to 12

The Erasmus system is working perfectly in some universities. E.g. in Univ of Hacettepe, there is a Erasmus coordinator in each faculty who makes bilateral agreements and there is general coordinator in the EU office of the university, and last year Hacettepe University sent 273 undergraduate and graduate students to abroad for an average of 4-6 months and received 88 scholars from European institutions.

## 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 statement will result in equivalent education in Pharmacy Faculties and will facilitate exchange and mobility of students. Statement is already in practice in Turkey.
“... <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> ”	Theoretical and practical courses in the first 4 years of the education is required and is already in application in Turkey
“... <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> ”	Six months traineeship is applied in Turkish HEIs. Students may complete this training period in hospitals, research centres, ministry of health, pharmaceutical companies and abroad as well as in community pharmacies.
“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> ”	This is a principle that is tried to be applied in all subject areas of pharmacy education here in Turkey.
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.	These are the main subject titles that used to exist in the curriculum of faculties of pharmacy nationwide. Additionally, our HEI offers pharmaceutical botany, pharmaceutical care / clinical pharmacy, biopharmaceutics and pharmacokinetics, and computer applications as obligatory courses in the programme.



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