



## ***The PHARMINE survey of European higher education institutions delivering pharmacy education & training***

***V1***

***If you encounter any problems when filling out this form please contact the leader of PHARMINE work program WP7:  
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### **PHARMINE**

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

## **Production of the PHARMINE survey V1.**

The “*PHARMINE survey of European higher education institutions delivering pharmacy education & training*” (referred to as the “PHARMINE survey”) was produced by:

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The following persons tested a preliminary version of the PHARMINE survey and provided very useful comments:

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## **Updates.**

The PHARMINE survey will be updated as further comments come in. If new questions arise from such comments and clarification, the correspondents in the different higher education institutions (HEIs) participating in this PHARMINE survey will be contacted for further information.

**Jeffrey Atkinson,  
Villers, France**

**Spring, 2009.**

## Introduction.

### *PHARMINE*

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 the XXI century pharmacists will play an increasingly important role as partners in the efficient use of the health care resources (community and hospital pharmacists). They will also be major players in the development of the pharmaceutical industry (industrial pharmacists). Whilst abiding by the recommendations for the duration and course content for EU pharmacy education and training given in the directive 2005/36/EC on the recognition of professional qualifications, the PHARMINE consortium will examine the opportunities for the introduction of the principles of the Bologna declaration into pharmacy education and training with the aim of tuning the latter to the future needs in the three main areas of pharmaceutical expertise: community, hospital and industrial pharmacy.

The consortium will survey existing pharmacy curricula and attempts to adapt these to the Bologna process. The project runs from 1/10/2008 through 30/9/2010. A first survey of pharmacy HEIs was carried out by the EAFP in the 1990s (P. Bourlioux, Paris, EU TEMPUS project). In order to evaluate evolution since that time, this PHARMINE survey will follow the lines of the previous survey.

The form will be sent out to at least 1 HEI in each member state (MS) of the EU as well as to at least 1 HEI in other European countries.

### *Aims and objectives of WP7*

The PHARMINE project has 7 work programmes (WP). The aims and objectives of WP7 are to produce a databank of pharmacy E&T leading to basic pharmacist qualifications and to qualifications required for specialist activities, in pharmacy HEIs of the EU.

### *Organisation*

Data for the survey will be collected by electronic means. This can be backed up by telephone calls and/or by on-site visits. Participating HEIs should first read the following forms. Any difficulties that arise may be solved by contacting: [jeffrey.atkinson@orange.fr](mailto:jeffrey.atkinson@orange.fr). An on-site visit to the participating HEI can be arranged if required.

### *Milestones*

The principal milestone will be the delivery of the data required for the production of a white paper, the publication of the first version of which is planned for the end of 2009.

### *Abbreviations*

- B bachelor level (first 3 years study at an HEI following secondary school). This may be followed by a number, e.g. B1 = first year of bachelor studies
- D doctoral (Ph.D.) level. This will start after 5 years of study at an HEI (3 years B plus 2 years M)

- EAFP            European Association of Faculties of Pharmacy
- E&T            education and training
- EC             European Commission
- EU             European Union
- HEI            higher education institution
- LLL            lifelong learning
- M              master level (4<sup>th</sup> and 5<sup>th</sup> years of study at an HEI)
- MS            member state
- PHARMINE    Pharmacy Education in Europe
- R&D           research and development
- S              semester. This may be followed by a number, e.g. B1S1 = first semester of the first bachelor year

#### *Filling out the form*

You can fill in the form using MS WORD 97-2003 or a later version, or print out the PDF version and fill it in freehand. If you do use MS WORD, please do not alter the left-hand columns.

#### *Data*

In many sections you will be asked to provide numerical data or a “yes or no” reply to a specific question. In such cases you are provided with adequate space to add any comments you feel necessary. These are not limited in length as fields will automatically resize.

#### *Dates.*

The data provided should refer to 2007 or 2008. If data from an earlier period are given, please indicate dates.

#### *Additional documents*

You may find the documents regarding EC directive 2005/36/EC (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:255:0022:0142:EN:PDF>) and the Bologna declaration (<http://www.ond.vlaanderen.be/hogeronderwijs/bologna/about/>) useful when filling out this form.

#### *References*

At the end of each chapter we would like you to add any bibliographic references that you consider helpful as well as a reference to the laws and edicts that govern professional pharmacy practice and/or pharmacy E&T in your country.

### *Survey chapters*

The document has 7 chapters:

1. Organization of the activities of pharmacists, professional bodies
2. Pharmacy HEIs, students and courses
3. Teaching and learning methods
4. Subject areas
5. Impact of the Bologna principles
6. Impact of EC directive 2005/36/EC
7. Quality assurance.

### Your details.

Please give the contact details for at least one person from your HEI. Considering the long-term running of the project it would be helpful in if a second name could be given. These persons will be the contacts for your HEI for the PHARMINE survey and they may be contacted in the case of updating (see above).

	First contact	Second contact
Name		
HEI		
Street		
City, zip		
Country		
Telephone (+ country code)		
Fax (+ country code)		
e-mail		
Website		

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

The data to be collected in this chapter is on the organization of the activities of pharmacists in your country, and on professional bodies. It represents the background pharmaceutical situation on a national level. You may consider contacting organisations or agencies outside of your HEI for help with this section. If you do so, could you please give references at the end of the chapter?

The PHARMINE survey is interested in the competences and roles of the pharmacist in individual European countries. Before filling in this chapter, you may like to consider the following.

The basic *competences* for a pharmacist are:

1. Conversance with professional aspects of pharmacy
2. Expertise in medicines
  - a. R&D of active & safe medicines
  - b. Use of medicines by patients
  - c. Monitoring effects of treatment
3. Effective communication & management
4. Appreciation of professional & social role of pharmacist

The *roles* of a pharmacist in the healthcare system and elsewhere fall into the following broad categories:

1. Community pharmacy:
  - a. Supplying prescription medicines
  - b. Managing medicines for some ailments
  - c. Giving advice on medicines
  - d. Screening services
  - e. Services to the housebound
  - f. Services to nursing and care homes (medication reviews, advice on storage and administration of medicines)
  - g. Other (please specify)
2. Hospital pharmacy:
  - a. In wards or outpatient clinics
  - b. Consultant in specialised clinical areas such as paediatrics or intensive care
  - c. Part of multidisciplinary patient-care team
  - d. Purchasing of drugs and medical material



- e. Monitoring of drug use
  - f. Unit-dose drug distribution
  - g. Production of patient-specific medicines (e.g. cytotoxic preparations)
  - h. Other (please specify)
3. Primary care and other healthcare services:
- a. Work in GP practices
  - b. Advice to GPs on cost-effectiveness of prescribing, developing of practice formularies and patient-centred prescribing
  - c. Drug use reviews
  - d. Cholesterol monitoring
  - e. Review medication of patients on complex drug regimen
  - f. Other (please specify)
4. Industry:
- a. Synthesis and production of new chemical entities and drugs
  - b. R&D – drugs
  - c. R&D – health care products other than drugs
  - d. Preclinical drug evaluation (safety and efficacy)
  - e. Clinical drug evaluation (safety and efficacy)
  - f. Marketing
  - g. Distribution
  - h. Medical devices
  - i. Cosmetology
  - j. Drug evaluation and registration (governmental and industrial)
  - k. Other (please specify)
5. Other areas:
- a. Journalism
  - b. Forensics
  - c. Armed forces
  - d. Voluntary health organisations/non-governmental organisations
  - e. Secondary school E&T (biology, clinical chemistry...)
  - f. Universities
  - g. National health services
  - h. International health services
  - i. Institutes of clinical review (e.g. NICE UK National institute for health and clinical excellence)
  - j. Agricultural and veterinary pharmacy
  - k. Other (please specify)

Could you please give some indication of the numbers or percentages of pharmacists that graduate involved in the various functions and roles above?

Note that in this document a *pharmacist* is defined according to the EC directive 2005/36/EC (see above):

- E&T lasting at least 5 years
- At least 4 years full-time theoretical and practical training
- Traineeship of at least 6 months

If a person holding another type of qualification (e.g. prescriptionist, pharmacy technician, *préparateur en pharmacie*...) is involved in pharmacy practice in your country, could you please indicate:

- Their job titles
- The number of persons holding such a qualification
- Their qualifications:
  - Organisation providing and validating the E&T
  - Duration of studies
  - Subject areas
  - Traineeship
- Their competences
- Their roles

	Y/N, number or %	If you wish to expand your answer, please add your comments below.
<b>Community pharmacy</b>		
Number of community pharmacists	Number:	
Number of community pharmacies	Number:	
Competences and roles of community pharmacists		
Is ownership of a community pharmacy limited to pharmacists?	Y/N:	
Are there rules governing the geographical distribution of community pharmacies?	Y/N:	
Are drugs and healthcare products available to the general public by channels other than pharmacies?	Y/N:	
Are persons other than pharmacists involved in community practice?	Y/N:	
Their titles and number(s)	Number:	
Their qualifications		
Organisation providing and validating the E&T		

Duration of studies (years)	Number:	
Subject areas		
Competences and roles		
Are drugs and healthcare products available to the general public by channels other than pharmacies?	Y/N:	
Are drugs and healthcare products available to the general public by channels other than pharmacies?	Y/N:	
<b>Hospital pharmacy</b>		
Does such a function exist?	Y/N:	
Number of hospital pharmacists	Number:	
Number of hospital pharmacies	Number:	
Competences and roles of hospital pharmacists		
<b>Pharmaceutical and related industries</b>		
Number of companies with production, R&D and distribution	Number:	

Number of companies with production only	Number:	
Number of companies with distribution only	Number:	
Number of companies producing generic drugs only	Number:	
<b>Industrial pharmacy</b>		
Number of pharmacists working in industry	Number:	
Competences and roles of industrial pharmacists		
<b>Other sectors</b>		
Number of pharmacists working in other sectors	Number:	
Sectors in which pharmacists are employed		
Competences and roles of pharmacists employed in other sectors		

Roles of professional associations		
Registration of pharmacists	Y/N:	
Creation of community pharmacies and control of territorial distribution	Y/N:	
Ethical and other aspects of professional conduct	Y/N:	
Quality assurance and validation of HEI courses for pharmacists	Y/N:	
Other (please specify)		

References	
References to texts and articles of national law	
Bibliographic references (EU, national, international)	

## Chapter 2. Pharmacy HEIs, students and courses

In this section we would like to gather information on HEIs, their status (public or private), and their organisation. We would also like to have information on staff and student numbers, entry requirements, and fees.

We would also like you to indicate past and future changes in pharmacy E&T in your country.

We would like information at both a national level and at the level of your particular HEI. We are interested in whether your HEI is typical of those in the country and if not how HEIs differ.

We would like information on both the common curriculum (both basic and advance) and on any specialized courses (community, hospital, industry, other) that you may offer in your HEI.

Under “teaching staff” we would like to provide details on:

- Professors/full professors/chairs
- Associate professors/assistant professors/lecturers
- Demonstrators/assistants/Ph. D. student teachers

Note that “international” in the context of this chapter refers to staff and students who are present at an HEI for more than 6 months. Shorter term exchange programmes will be dealt with in chapter 5.

“Advanced entry” refers to entry into a course that leads to a qualification as a pharmacy graduate, at a stage beyond the beginning of S1 of B1, following secondary school. This excludes Ph.D. and other postgraduate/post-registration courses. Please give the level in the “Sx of Bx” form, e.g. S2 of B2 = beginning the second semester of the second bachelor year.

If “fees per year” vary from one year to another, please indicate this.

Note that “length of course” refers to the number of years between the end of secondary school education and registration as a pharmacist and/or the start of a career as a pharmaceutical professional (e.g. in industry).

	Y/N, number or %	If you wish to expand your answer, please add your comments below.
<b>Total number of HEIs in your country</b>	Number:	
Public	Number:	
Private	Number:	
<b>Organisation of HEIs</b>		
Independent faculty	Y/N:	
Attached to a science faculty	Y/N:	
Attached to a medical faculty	Y/N:	
Other (please specify)	Y/N:	
Do HEIs offer B + M degrees?	Y/N:	
Do HEIs offer an M. Pharm. after a B degree in another HEI?	Y/N:	
Do HEIs offer a B. Pharm. followed by an M. Pharm. in the same HEI or elsewhere?	Y/N:	



<b>On a national level</b>		
<b>Teaching staff</b>		
Number of teaching staff (nationals)	Number:	
Number of international teaching staff (from EU MSs)	Number:	
Number of international teaching staff (non EU)	Number:	
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	Number:	
<b>Students</b>		
Number of places at traditional entry (beginning of S1 of B1, following secondary school)	Number:	
Number of applicants for entry	Number:	
Number of graduates that become registered/professional pharmacists.	Number:	
Number of international students (from EU member states)	Number:	
Number of international students (non EU)	Number:	
<b>Entry requirements (beginning of S1 of B1, following secondary school)</b>		

Specific pharmacy-related, national entrance examination	Y/N:	
Other form of entry requirement at a national level	Y/N:	
Is there a national <i>numerus clausus</i> ?	Y/N:	
<b>Advanced entry</b>		
At which level?		
What are the requirements?		
Specific requirements for international students (EU or non EU).		
<b>Fees per year</b>		
For home students	Amount (€):	
For EU MS students	Amount (€):	
For non EU students	Amount (€):	
<b>Length of course</b>	<b>Number of years:</b>	

<b>Specialization</b>		
Do HEIs provide specialized courses?	Y/N:	
In which years?	Years:	
In which specialisation (industry, hospital...)?		
What are the student numbers in each specialization?	Number:	
<b>Past and present changes in E&amp;T</b>		
Have there been any major changes since 1999?	Y/N:	
Are any major changes envisaged before 2019?		
<b>At the level of your HEI</b>		
<b>Teaching staff</b>		
Number of teaching staff (nationals)	Number:	
Number of international teaching staff (from EU MSs)	Number:	

Number of international teaching staff (non EU)	Number:	
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	Number:	
<b>Students</b>		
Number of places at traditional entry (beginning of S1 of B1, following secondary school)	Number:	
Number of applicants for entry	Number:	
Number of graduates that become registered/professional pharmacists.	Number:	
Number of international students (from EU member states)	Number:	
Number of international students (non EU)	Number:	
<b>Entry requirements (beginning of S1 of B1, following secondary school)</b>		
Your HEI has a specific pharmacy-related entrance examination	Y/N:	
<b>Advanced entry</b>		
At which level?		
What are the requirements?		

Specific requirements for international students (EU or non EU).		
<b>Fees per year</b>		
For home students	Amount (€):	
For EU MS students	Amount (€):	
For non EU students	Amount (€):	
<b>Length of course</b>	<b>Number of years:</b>	
<b>Specialization</b>		
Does your HEI provide specialized courses?	Y/N:	
In which years?	Years:	
In which specialisation (industry, hospital...)?		
What are the student numbers in each specialization?	Number:	
<b>Past and present changes in E&amp;T</b>		

Have there been any major changes since 1999 at your HEI?	Y/N:	
Are any major changes envisaged before 2019 at your HEI?	Y/N:	
Is your HEI typical of all HEIs in the country?	Y/N:	
If your HEI is not typical, how do HEIs differ (e.g. in terms of organisation, subject areas, specialization...)?		

References	
References to texts and articles of national law	
Bibliographic references (EU, national, international)	

### Chapter 3. Teaching and learning methods

In this section we would like to gather information on the student hours in each year for:

1. Each of 4 types of teaching and learning in HEIs
  - a. Lectures
  - b. Tutorials
  - c. Practicals
  - d. Independent project work (including field work)
2. Traineeship
3. Electives
  - a. “choice”: teaching unit with a possibility to opt in or out (Y/N choice); choice has no impact on obtention of final diploma
  - b. “optional” choice of subject amongst several

In the boxes for “student hours” you should give the average number of hours a given student will invest. In some cases such as electives the number of hours may be very variable. In this case you may wish to add a range of hours invested.

In your comments could you please state who validates courses, traineeship and electives?

Student hours						
Method	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b><u>HEIs courses</u></b>						
Lecture						
Tutorial						
Practical						
Project work						
<b><u>Traineeship</u></b>						
Hospital						
Community						
Industrial (academic or industrial)						
Other (please specify)						
<b><u>Electives</u></b>						
Choice						



Optional						
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If you wish to expand your answer, please add your comments below.

	1	2	3	4	5	6
HEI courses						
Traineeship						
Electives						

References	
References to texts and articles of national law	
Bibliographic references (EU, national, international)	

## Chapter 4. Subject areas

In this section we would like you to calculate the total number of hours per year spent in each of the following subject areas.

We have not tried to standardize exact subject titles as these are different in various countries and open to mistakes and misinterpretation in translation. Instead we would like you to calculate the numbers of hours spent studying 7 different subject areas.

These are the same subject areas as defined in the first EAFP/Boulioux survey (1994) with two exceptions. “Medicinal” - rather than “medicine” as in the Bourlioux document – is used for subject area 5. “Medicinal” refers to: *tending or used to cure disease or relieve pain*. It thus goes beyond “drugs” to therapy in a wider sense of the word. The other difference with the first survey is the inclusion in this PHARMINE survey of a chapter on generic subjects.

1. Subject area I: Chemical sciences “CHEMSCI”
  - a. General, organic & inorganic chemistry
  - b. Analytical chemistry
  - c. Pharmaceutical chemistry /pharmacopeial analysis
  - d. Medicinal physicochemistry / SAR / drug design
2. Subject area II: Physical and Mathematical Sciences “PHYSMATH”
  - a. Physics
  - b. Mathematics, pharmaceutical calculations
  - c. Information technology, information technology applied to community pharmacy, information technology applied to national health-care
  - d. Statistics
  - e. Experimental design & analysis
3. Subject area III: Biological Sciences “BIOLSCI”
  - a. Foundation biology
  - b. Cell biology
  - c. Botany
  - d. Mycology
  - e. Zoology
  - f. Biochemistry
  - g. Molecular biology
  - h. Genetics

4. Subject area IV: Pharmaceutical Technology "PHARMTECH"

- a. Galenic formulation / pharmaceuticals
- b. Drug disposition and metabolism (ADME) / pharmacokinetics
- c. Novel drug delivery systems
- d. Drug design
- e. Pharmaceutical R&D
- f. Drug production
- g. Quality assurance in production
- h. Drug/new chemical entity registration and regularization
- i. Common technical document (quality (pharmaceutical), safety (safety pharmacology and toxicology) efficacy (preclinical and clinical studies))
- j. Ophthalmic preparations
- k. Medical gases
- l. Cosmetics
- m. Management strategy in industry
- n. Economics of the pharmaceutical industry and R&D

5. Subject area V: Medicinal and therapeutical sciences "MEDISCI"

- a. Human anatomy & physiology
- b. Medical terminology
- c. Pharmacology
- d. Pharmacognosy
- e. Pharmacotherapy / therapeutics
- f. Toxicology
- g. Pathology, histology
- h. Microbiology
- i. Nutrition, non-pharmacological treatment
- j. Hematology
- k. Immunology
- l. Parasitology
- m. Hygiene
- n. Emergency therapy
- o. Clinical chemistry / bioanalysis (of body fluids)
- p. Radiochemistry
- q. Dispensing process, drug prescription, prescription analysis (detection of adverse effects and drug interactions)
- r. Generic drugs

- s. Planning, running and interpretation of the data of clinical trials
- t. Medical devices,
- u. Orthopedics
- v. OTC medicines, complementary therapy
- w. At-home support and care
- x. Skin illness and treatment
- y. Homeopathy
- z. Phytotherapy
- aa. Drugs in veterinary medicine
- bb. Pharmaceutical care, pharmaceutical therapy of illness and disease

6. Subject area VI: Law and social sciences "LAWSOC"

- a. Legislation, law relating to pharmacy
- b. Social sciences
- c. Forensic science
- d. Professional ethics
- e. Philosophy
- f. Economics, financial affairs, book keeping, economic planning and management
- g. Public health/health promotion
- h. Quality management
- i. Epidemiology of drug use (pharmaco-epidemiology)
- j. Economics of drug use (pharmaco-economics)
- k. History of pharmacy

7. Subject area VII: Generic competences "GENERIC"

- a. General knowledge
- b. Academic literacy
- c. Languages
- d. First aid
- e. Communication
- f. Management
- g. Practical skills

<b>Student hours</b>
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Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
CHEMSCI						
PHYSMATH						
BIOLSCI						
PHARMTECH						
MEDISCI						
LAWSOC						
GENERIC						

If you wish to expand your answer, please add your comments below.

	1	2	3	4	5	6
CHEMSCI						
PHYSMATH						
BIOLSCI						
PHARMTECH						
MEDISCI						
LAWSOC						
GENERIC						

References	
References to texts and articles of national law	
Bibliographic references (EU, national, international)	



## Chapter 5. Impact of the Bologna principles

In this section we would like to know whether and how the principles outlined in the Bologna declaration (<http://www.ond.vlaanderen.be/hogeronderwijs/bologna/about/>) affect pharmacy E&T in your HEI:

1. Do you have easily readable and comparable degrees? Do you issue a Diploma Supplement?
2. Are courses divided into two main cycles: 3 year undergraduate (B) and graduate (M & D)? Please note that in the language of the Bologna declaration, “graduate” refers to a person who successfully finishes a B degree. We would like to know whether the degree awarded after such a bachelor, first cycle is relevant to the (European) labour market, *i.e.* whether there are job opportunities in the healthcare system of your country, or in any other area, for persons with a bachelor (B) degree obtained after 3 years of E&T. We would also like to know whether persons with a 3-year bachelor (B) degree from an HEI other than pharmacy (natural sciences, chemistry...) possibly in another country can enrol into the master (M) program and then go on to become registered pharmacists or pharmacy professionals.
3. Do you use the European system of credits (ECTS )? How are they used to promote student mobility? Does your HEI fully validate ECTSs obtained in another HEI in another European country? Can ECTS be acquired in a non-HEI context (traineeships...)? Are ECTS used in a global scheme (*i.e.* one including lifelong learning)?
4. Are efforts made to identify and remove obstacles to student and staff mobility (with language courses, additional resources (staff and finances))? Please add numbers for short-term (less than 6 months) “ERASMUS” exchange staff and students.
5. Is your HEI involved in any European co-operative program in quality assurance with attempts to develop comparable criteria and methodologies?
6. In your HEI what are the European dimensions in higher education regarding curriculum development, general inter-institutional co-operation and integrated programmes of study, training and research?

Bologna principle	Is the principle applied? Y/N or partially	How is it applied? Does your HEI have multilateral recognition and agreements? Other comments.
1. Comparable degrees / Diploma Supplement		
2. Two main cycles (B and M) <u>with entry and exit at B level</u>		
3. ECTS system of credits / links to LLL		
4. Obstacles to mobility		
5. European QA		

<b>6. European dimension</b>		
<b>ERASMUS staff exchange to your HEI from elsewhere</b>	Number of staff months:	
<b>ERASMUS staff exchange from your HEI to other HEIs</b>	Number of staff months:	
<b>ERASMUS student exchange to your HEI from elsewhere</b>	Number of student months:	
<b>ERASMUS student exchange from your HEI to other HEIs</b>	Number of student months:	

<b>References</b>	
References to texts and articles of national law	
Bibliographic references (EU, national, international)	

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

In this section we would like to know how EC directive 2005/36/EC (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:255:0022:0142:EN:PDF>) has affected/affects pharmacy E&T in your HEI.

We would like information on the impact of 3 main elements of directive 2005/36/EC on:

- Course length
- Course content
- Traineeship

We would also like you to consider the subjects given in annex V.6. Does this list have any impact on what is taught? Do you think that this list is useful? Do you think that this list should be modified?

The directive states	How does / will this directive statement affect pharmacy E&T?	If you wish to expand your answer, please add your comments below. Do you consider the directive statement valid? If not how would you change it?
"Evidence of formal qualifications as a pharmacist shall attest to training of at least <u>five years' duration</u> ,..."		
"... <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;"		
"... <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."		
"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> ."		

Directive annex	How does / will this directive annex affect pharmacy E&T?	If you wish to expand your answer, please add your comments below. Do you consider the directive annex valid? If not how would you change it?
<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.		

References	
References to texts and articles of national law	
Bibliographic references (EU, national, international)	

## Chapter 7. Quality assurance.

This part of the questionnaire is based upon the US Accreditation Council for Pharmacy Education (ACPE) 2007 standards and is aimed at obtaining information on the self perception that each Faculty has of its own Quality Assurance System whether non-existing or existing and the extent of its implementation.

If a QA system is in place, please attach supporting documentation for each of the questions referencing under comments the part (page/chapter) of the documentation pertaining to each of the questions.

Further questions should be addressed to Prof. J. Morais, Lisbon ([jagmorais@ff.ul.pt](mailto:jagmorais@ff.ul.pt)) with a copy to J. Atkinson.

**QUALITY ASSURANCE – 2009 (Based on ACPE – Standards 2007)**

	QUESTIONS	Y/ N	COMMENTS
<b>Quality Assurance (QA)</b>	Does your High Education Institution (HEI) have a Quality Assurance (QA) system?	<input type="checkbox"/> <input type="checkbox"/>	
	Is the QA system up-to-date and implemented?	<input type="checkbox"/> <input type="checkbox"/>	
	Please indicate whether your system is (a) Internal to the HEI (b) External to the HEI (c) A combination of both	(a) <input type="checkbox"/> (b) <input type="checkbox"/> (c) <input type="checkbox"/>	
<b>Mission, Planning and Evaluation</b>			
<b>1. Mission</b>	Has your Faculty a published statement of its mission in all of the following topics: education, research, service and pharmacy practice?	<input type="checkbox"/> <input type="checkbox"/>	
<b>2. Strategic Plan</b>	Is your Faculty in the process of or has it developed, implemented and regularly reviewed a strategic plan in order to achieve the mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	
<b>3. Evaluation of Achievement of Mission and Goals</b>	Does your Faculty have an official document (such as an Evaluation Plan) that comprehensively describes how the Faculty will continuously and systematically evaluate all aspects of the Faculty, including the achievement of its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	
<b>Organization and administration</b>			
<b>4. Institutional Accreditation</b>	Is your Faculty accredited by a national / international educational or professional body?	<input type="checkbox"/> <input type="checkbox"/>	
<b>5. Faculty and University Relationship</b>	Is your Faculty an autonomous unit within the university structure?	<input type="checkbox"/> <input type="checkbox"/>	
<b>6. Faculty and Administrative Relationship</b>	Does your Faculty have, within the university structure, autonomous administrative services related with academic, research and other scholarly activities?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<b>7. Faculty Organization and Governance</b>	Does the structure, organization and staffing of the Faculty foster the development of organizational units, allow appropriate allocation of resources and facilitate the accomplishment of the Faculty's mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	
<b>8. Dean Qualifications and Responsibilities</b>	Is your Dean a chief administrative and academic officer, having direct access to the university Rector or other university officials delegated, with final responsibility for the college or Faculty?	<input type="checkbox"/> <input type="checkbox"/>	



Curriculum		
<b>9. Goal of Curriculum</b>	Does the Faculty's program curriculum prepare pharmacists for any practice setting by developing in graduates knowledge that meets the criteria of good science, professional skills, attitudes and values, and the ability to integrate and apply learning to current and future practice	<input type="checkbox"/> <input type="checkbox"/>
<b>10. Curricular Development</b>	Does your curriculum define the expected outcomes and is it developed under the collective responsibility of the academic teaching staff with attention to sequencing and integration of contents and selection of teaching methods and assessments?	<input type="checkbox"/> <input type="checkbox"/>
<b>11. Teaching and Learning Methods</b>	Does your Faculty use and integrate teaching and learning methods that have been showed through curricular assessments to produce graduates who became competent pharmacists with critical thinking, problem-solving and self-directed lifelong learning skills?	<input type="checkbox"/> <input type="checkbox"/>
<b>12. Professional Competencies</b>	Are your graduates able to promote health, provide patient care in cooperation with all partners based upon good therapeutic principles and evidence-based data that may impact therapeutic outcomes, manage and use resources of the healthcare system, and effectively provide, assess and coordinate medication distribution?	<input type="checkbox"/> <input type="checkbox"/>
<b>13. Knowledge, Skills, Attitudes and Values</b>	Does your curriculum have all the following areas: fundamental hard sciences, biomedical sciences, pharmaceutical sciences, social/behavioural/ administrative sciences and clinical sciences?	<input type="checkbox"/> <input type="checkbox"/>
	Do graduates possess the required entry-level knowledge, skills, attitudes and values to practice pharmacy independently by graduation, including the training period as per Dir 2005/36?	<input type="checkbox"/> <input type="checkbox"/>
<b>14. Practice Experiences</b>	Does your program curriculum include at least 6 months of training practice in community/hospital pharmacy?	<input type="checkbox"/> <input type="checkbox"/>
	Are the practice experiences within the curriculum appropriately structured and sequenced to integrate, apply, reinforce and advance the knowledge, skills, attitudes and values developed through other components of the curriculum?	<input type="checkbox"/> <input type="checkbox"/>

<b>15. Assessment and evaluation of student learning and curricular effectiveness</b>	Does your Faculty use assessment measures throughout the program to evaluate the attainment of the desired educational outcomes and professional competencies, to improve student learning and to improve the curriculum and its delivery.	<input type="checkbox"/> <input type="checkbox"/>	
<b>Students</b>			
<b>16. Organization of student services</b>	Does your Faculty have organizational elements devoted to student services e.g. a confidential system of student records; and financial, academic and social support services for students?	<input type="checkbox"/> <input type="checkbox"/>	
<b>17. Admission criteria, policies and procedures</b>	Does your Faculty produce and make available to students criteria, policies, and procedures for admission to the degree program?  Does your faculty have the final responsibility for selection and enrollment (numbers) of students?	<input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>	
<b>18. Transfer of credits</b>	Does your Faculty produce transfer credits (ECTS) based on rational procedures and defensible assessments, and makes that information available to students?	<input type="checkbox"/> <input type="checkbox"/>	
<b>19. Progression of students</b>	Does your Faculty produce and make available to students criteria, policies and procedures for academic progression?	<input type="checkbox"/> <input type="checkbox"/>	
<b>20. Students complaints policies</b>	Does your Faculty produce and make available to students a complaints policy that includes elements related to student rights and appeal mechanisms?	<input type="checkbox"/> <input type="checkbox"/>	
<b>21. Program information</b>	Does your Faculty produce and make available to students a complete and accurate description of the degree program, including its current accreditation status (if applicable)?	<input type="checkbox"/> <input type="checkbox"/>	
<b>22. Student representation and perspectives</b>	Does your Faculty involve student representatives on appropriate program committees, such as accreditation self-studies, assessment, curriculum and strategic planning?	<input type="checkbox"/> <input type="checkbox"/>	
<b>23. Professional behaviour and harmonious relationship</b>	Does your Faculty provide an environment and culture that promotes professional behaviour and harmonious relationships among students, staff and administrators?	<input type="checkbox"/> <input type="checkbox"/>	

<b>Faculty Staff</b>		
<b>24. Faculty staff quantitative factors</b>	Does your Faculty have a sufficient number of qualified full-time staff to effectively deliver and evaluate the degree program, while providing adequate time for staff development, research and other activities?	<input type="checkbox"/> <input type="checkbox"/>
<b>25. Faculty staff qualitative factors</b>	Does your Faculty have qualified staff with the required professional and academic expertise and who, individually and collectively, are committed to its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>
<b>26. Faculty staff continuing professional development and performance review</b>	Does your Faculty have effective programs for performance review and continuing professional development for full-time, part-time, and voluntary faculty staff, consistent with their responsibilities in the program?	<input type="checkbox"/> <input type="checkbox"/>
<b>Facilities and Resources</b>		
<b>27. Physical facilities</b>	Does your Faculty have adequate and appropriate physical facilities and equipment to achieve its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>
<b>28. Practice facilities</b>	Does your Faculty have criteria for the selection of its practice sites and work collaboratively with those sites to advance patient care services provided there?	<input type="checkbox"/> <input type="checkbox"/>
<b>29. Library and educational resources</b>	Does your Faculty ensure access for all staff and students to a library and other educational resources, sufficient to support the degree program and to provide for research and other activities in accordance with its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>
<b>30. Financial resources</b>	Does your Faculty have the financial resources necessary to accomplish its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>

<b>31. Students complaints policies</b>	Does your Faculty produce and make available to students a complaints policy that includes written documents related to student rights and appeal mechanisms?	<input type="checkbox"/> <input type="checkbox"/>	
<b>32. Program information</b>	Does your Faculty produces and makes available to students a complete and accurate description of the degree program, including its current accreditation status?	<input type="checkbox"/> <input type="checkbox"/>	
<b>33. Student representation and perspectives</b>	Does your Faculty involve student representatives on appropriate program committees, such as accreditation self-studies and planning activities?	<input type="checkbox"/> <input type="checkbox"/>	
<b>34. Professional behavior and harmonious relationship</b>	Does your Faculty provide an environment and culture that promotes professional behavior and harmonious relationships among students, staff and administrators?	<input type="checkbox"/> <input type="checkbox"/>	
<b>Faculty Staff</b>			
<b>35. Faculty staff quantitative factors</b>	Has your Faculty a sufficient number of qualified full-time staff to effectively deliver and evaluate the degree program, while providing adequate time for staff development, research and other activities?	<input type="checkbox"/> <input type="checkbox"/>	
<b>36. Faculty staff qualitative factors</b>	Has your Faculty qualified staffs that, individually and collectively, are committed to its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	
<b>37. Faculty staff continuing professional development and performance review</b>	Has your Faculty an effective continuing professional development program for full-time, part-time, and voluntary faculty staff, consistent with their responsibilities?	<input type="checkbox"/> <input type="checkbox"/>	

Facilities and Resources			
38. Physical facilities	Have your Faculty adequate and appropriate physical facilities to achieve its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	
39. Practice facilities	Does your Faculty provide patient-care services either of its practice sites or collaboratively?	<input type="checkbox"/> <input type="checkbox"/>	
40. Library and educational resources	Does your Faculty ensure access for all staff and students to a library and other educational resources, sufficient to support the degree program and to provide for research and other activities in accordance with its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	
41. Financial resources	Does your Faculty have the financial resources necessary to accomplish its mission and goals?	<input type="checkbox"/> <input type="checkbox"/>	