

## In the Name of God

### Islamic Republic of Iran Ministry of Health and Medical Education Deputy Ministry for Education

## Pharmaceutics

### Degree: Doctorate of Philosophy (PhD)

#### Total Course Credits

Core: 24

Non-core: 4 out of 8

Thesis: 22

#### Program Description

The PhD degree in Pharmaceutics is a specialized discipline in Pharmacy and the highest academic degree awarded in this field of study. Pharmaceutics includes different educational and research courses related to formulation, physicochemical and microbial control, and pharmacokinetic study of drugs.

The general aims of the Pharmaceutics PhD Program are:

- Training specialized forces in the field of Pharmaceutics for supplying the human resources required for Iranian academic and research centers.
- Training the required specialized human resources for Iran's pharmaceutical industries.

#### Admission Requirements

Student admission is conducted through holding a centralized exam by the Secretariat of the Pharmacy Specialized Training Council.

Holders of PharmD or MSc degree in Pharmacy (must also possess a BSc degree in Pharmacy) can take part in the PhD entrance exam of Pharmaceutics. Those passing the written exam and the oral exam (interview) can subsequently take part in the PhD program upon registration.

Other regulations regarding participation in the Pharmaceutics PhD exam shall be in compliance with the relevant educational code for PhD programs, approved by Iran High Council of Educational Planning in Medical Sciences.

#### Expected Competencies at the End of the Program

##### General Competencies\*

##### Specific Competencies and Skills

Graduates of pharmaceutics will be able:

- To become a lecturer at universities
- To perform research in various research centers
- To work in an industry
- To be a researcher in research centers
- To establish a company
- To act as a manager in various pharmaceutical sectors

#### Educational Strategies, Methods and Techniques\*

## **Student Assessment**

### **Methods of the assessment**

Residents will be evaluated by the following methods:

Written; Verbal; Logbook-based assessment of their courses

### **Board exam**

Residents will take part in a comprehensive exam after passing their theoretical courses. The comprehensive exam consists of both written and oral evaluation. The written exam may be multiple choice or written exam.

### **Thesis**

Monitoring the progress of PhD reports (residents will give three progress reports) and completion of the thesis. Residents will give three progress report and one (final defense of their thesis by and publishing at least 2 articles in ISI journals).

### **Ethical Considerations\***

\*Note: The related document(s) can be found at <http://hcmep.behdasht.gov.ir/>.

## Tables of the Courses

**Table 1. Compensatory courses**

Code of the Course	Title of the Course	Number of Credits	Total Hours of the Course			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
01	Medical Informatics Systems	1	9	17	26	-

\* In case the Medical Informatics Systems course has not been passed by the student during the PharmD or MSc program, it must be considered as a compensatory course.

**Table 2. Core courses**

Code of the Course	Title of the Course	Number of Credits	Total Hours of the Course			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
02	Biopharmaceutics and Pharmacokinetics, Theoretical	3	51	-	51	-
03	Biopharmaceutics and Pharmacokinetics, Practical	1	-	34	34	-
04	Physical Pharmacy, Theoretical	2	34	-	34	-
05	Physical Pharmacy, Practical	1	-	34	34	-
06	Industrial Pharmacy, Theoretical	3	51	-	51	-
07	Industrial Pharmacy, Practical Project	1	-	34	34	-
08	Drug Delivery Systems (1)	2	34	-	34	-
09	Drug Delivery Systems (2)	2	34	-	34	-
10	Advanced Pharmaceutical Microbiology	2	34	-	34	-
11	Quality Control of Medicines, Theoretical	2	34	-	34	-
12	Quality Control of Medicines, Practical Project	1	-	34	34	-
13	Fundamentals and Application of Polymers in Pharmacy	1	17	-	17	-
14	Seminar 1	1			1	-
15	Seminar 2	1			1	-
16	Seminar 3	1			1	-
<b>Total</b>			<b>24</b>			

**Table 3. Non-core courses**

Code of the Course	Title of the Course	Number of Credits	Total Hours of the Course			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
14	Advanced Pharmaceutical Statistics	2	34	-	34	-
15	Introduction to Computer Softwares	2	17	34	51	-
16	Radiopharmaceutics	2	34	-	34	-
17	Pharmaceutical Biotechnology	2	34	-	34	-
<b>Total</b>			<b>8</b>			

Students should choose 4 credits as specified by the corresponding department.

<p>Mohammad Abdollahi, PharmD, PhD Secretary of the Council for Pharmaceutical Education at all levels</p> <p><i>M. Abdollahi</i></p>	<p>Seyed Mansour Razavi, MD Secretary of the Supreme Council for Medical Sciences Planning</p> <p><i>S. Razavi</i></p>
<p><i>Bagher Larijani</i></p> <p>Bagher Larijani, MD Deputy for Education Ministry of Health and Medical Education</p>	