

## In the Name of God

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

## Pharmacognosy Degree: Doctorate of Philosophy (PhD)

### Total Course Credits:

Core: 18

Non-core: 2 out of 6

Thesis: 22

Total: 42

### Program Description:

The field of pharmacognosy (PhD) is a branch of pharmaceutical sciences which incorporates investigating and studying herbal medicine as well as drugs and components with natural origin. The areas of research in this field include: phytochemical investigations (extraction, separation, and identification of natural compounds, plant cell culture, biochemical transformations, and biosynthetic pathways), phytopharmaceuticals (crude materials for production of herbal medicine), and phytotherapy (pharmacological and therapeutic effects of herbal and traditional medicine).

### Aim

The main mission of the course is training committed, knowledgeable, and competent experts in pharmacognosy.

### Admission Requirements

- A master's degree (MSc) in pharmacy.
- Being eligible for entering to the course according to the PhD educational rules and regulations.

Important note: These general conditions do not necessarily exclude specific conditions of each institute or university.

### Expected Competencies at the End of the Program

#### General Competencies\*

#### Specific Competencies and Skills

At the end of the program learners will be competent in the following skills:

In **education**, it incorporates contribution to teaching pharmacognosy to students according to the university's needs.

In **research** designing, it includes implementing and evaluating basic and applied researches in various contexts of related field.

In **providing consulting services**, it contributes to cooperation and consultation on production of phytopharmaceuticals.

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

#### Student Assessment

- a) Methods of the assessment  
Residents will be evaluated by the following methods: Written and verbal assessment
- b) Types of the assessment  
Periodic, comprehensive (final); monitoring the progress and completion of the thesis

## Ethical Considerations \*

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

## Tables of the Courses

**Table A. 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	Advance plant biochemistry	2	34	-	34	-
02	Plant populations and ecology in Iran	1	17	-	17	-
03	Economy and business of phytopharmaceuticals and natural drugs	1	17	-	17	-
04	*Medical information systems	1	9	17	26	-
<b>Total</b>		<b>5</b>				

Students should earn all or some of credits (Table A) as specified by the corresponding department.

\* Passing this course is obligatory for those who have not completed it before.

**Table B. 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	
05	Advance organic chemistry	2	34	-	34	-
06	Advance spectroscopic methods	3	34	34	68	05
07	Extraction, isolation and identification of natural compounds	5	51	68	119	05 & 06
08	Advance phytochemistry	2	34	-	34	05
09	Industrial processing of medicinal plants	1	17	-	17	-
10	Control of herbal and natural drug	2	17	34	51	07
11	Phytotherapy and herbal-natural drugs information	2	34	-0	34	-
12	Iranian traditional medicine	1	17	-	17	-
<b>Total</b>		<b>18</b>				

**Table C. 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	
13	Special notes in pharmacognosy	2	34	-	34	-
14	Plant cell and tissue culture	2	17	34	51	-
15	Fermentation and genetic engineering	2	34	-	34	-
<b>Total</b>		<b>6</b>				

\* Students should choose 2 out of 6 non-core courses 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>	