

## In the Name of God

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

## Physiology Master of Science (MSc)

### Total Course Credits

- Compensatory: 23
- Core: 25
- Non-core (Electives): 7
- Thesis (MSc):6

### Program Description

Physiology, an integrative subject in biological sciences, is a branch of medical sciences employing a systems-based approach. It deals with the function of cells, the cornerstone of human physiology, and all aspects of functioning of organs and organ systems.

M.Sc. in physiology is a research and thesis-oriented program providing a unique opportunity for developing knowledge and understanding, and research and practical skills from the medical perspective.

The aim of this graduate program is to promote an integrated and multidisciplinary approach to study fundamental physiological aspects of human health and diseases. It is also aimed to train postgraduate students with deeper theoretical and practical physiology knowledge of organ systems including concepts and mechanisms from cellular to whole body organs both in healthy and disease states.

### Admission Requirements

A Bachelor's degree in physiology, biology (all majors), zoology, nursing, physiotherapy, midwifery, laboratory sciences, biochemistry, descriptive sciences, speech therapy, optometric, audiology, general health, professional health and anesthesiology of operating room awarded by one of the home or foreign Universities approved by Ministry of Health and Medical Education is required.

Candidates should pass a written exam according to the following table:

Subjects	Weight
Physiology	3
Biochemistry	1
Animal biology	2
General English Language	3
Total	9

Candidates should be eligible for entering the program as specified by post-graduate.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**

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

- Literature review
- Peer presentation
- Research project design

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

#### **Student Assessment (Methods and Types)**

- Formative (quizzes and Midterm Exam)
- Summative (Final Exam)
- Seminars, presentations, written assignments, laboratory reports, seen practical and theoretical examinations

### **Ethical Consideration\***

\*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			Teaching Hours			Prerequisite and concurrent courses
		Theoretical	Practical	Total	Theoretical	Practical	Total	
01	Medical Physiological	8	1	9	136	34	170	-
02	General Physiology	5	1	6	85	34	119	-
03	Biochemistry	1.5	0.5	2	26	17	43	-
04	Neuroanatomy	1.5	0.5	2	26	17	43	-
05	Anatomy of Limb	1	-	1	17	-	17	
06	Histology	1.5	0.5	2	26	17	43	-
07*	Medical Information Systems	0.5	0.5	1	9	17	26	
<b>Total</b>				23				

\*This course is obligatory for those candidates who have not passed it during undergraduate study.

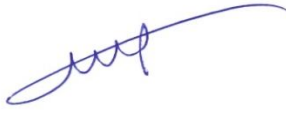

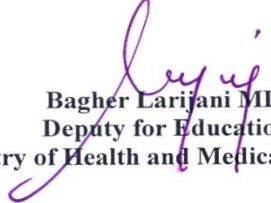
**Table 2. Core Courses**

Code of the Course	Title of the Course	Credits				Teaching Hours			Prerequisite and concurrent courses
		Theoretical	Practical	Internship	Total	Theoretical	Practical	Total	
08	Cell Physiology	2	-	-	2	34	-	34	-
09	Renal and Electrolyte Physiology	2	-	-	2	34	-	34	-
10	Respiratory Physiology	2	-	-	2	34	-	34	-
11	Gastrointestinal Physiology	2	-	-	2	34	-	34	-
12	Cardiovascular and Circulatory Physiology	2.5	-	-	2.5	43	-	43	08
13	Endocrine Physiology	2.5	-	-	2.5	43	-	43	-
14	Neurophysiology	3	-	-	3	51	-	51	08
15	Physiological Methods	-	2	-	3	-	68	68	-
16	Internship	-	-	1	1	-	51	51	-
17	Thesis	-	6	-	6	-	-	-	-
<b>Total</b>		16	8	1	25	-			

**Table 3. Non-Core Courses**

Code of the Course	Title of the Course	Credits				Teaching Hours			Prerequisite and concurrent Courses
		Theoretical	Practical	Internship	Total	Theoretical	Practical	Total	
18	Pharmacology	2	-	-	2	34	-	34	-
19	Biostatistics	2	-	-	2	34	-	34	-
20	Biophysics	2	-	-	2	34	-	34	-
21	Molecular Biology	2	-	-	2	34	-	34	-
22	Working with Laboratory Animal	1	1	-	2	34	34	51	-
23	Concepts of Clinical Physiology	2	-	-	2	34	-	34	-
24	Clinical Internship	-	-	2	2	-	102	102	-
25	Special Topics in Physiology	2	-	-	2	34	-	34	-
26	Specialized Language	2	-	-	2	34	-	34	-
	<b>Total</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>18</b>				

After receiving supervisor's consent and approval of post-graduate educational committee, students should take 7 credits of the aforementioned courses (Table 3) that are relevant to the topic of their thesis.

<p><b>Jamshid Hajati PhD</b>  <b>Secretariat of the Council for</b>  <b>Education of Health and Basic</b>  <b>Medical Sciences (Undergraduate</b>  <b>and Postgraduate)</b></p> 	<p><b>Seyed Mansour Razavi MD</b>  <b>Secretary of the Supreme</b>  <b>Council for Medical</b>  <b>Sciences Planning</b></p> 
 <p><b>Bagher Larijani MD</b>  <b>Deputy for Education</b>  <b>Ministry of Health and Medical Education</b></p>	