

## M.Sc. in Tele-Health

### Course Details:

#### Course Name:

Discontinuous Master of Science (M.Sc.) in Tele-health

#### Course Duration and Structure:

Is in accordance with the rules and regulations of the discontinuous master's course, approved by the High Council for Medical Sciences Planning.

### Total Course Credits:

The number of course credits is 32, which is as follows:

Credits	Number of Credits
Compulsory (Core) Credits	22
Non-core Credits	4
Thesis	6
<b>Total</b>	<b>32</b>

### Definition of the Program:

“Tele-Health” refers to the use of Information and Communication Technology, to care for the health in order to provide services and support the patient or caregiver, when there is a geographical distance between the two groups of providers and recipients of medical services.

"Tele-Health" is one of the interdisciplinary fields of studies and a set of educational and applied activities that use the skills, tools and knowledge, resulting from the synergy and interaction between Medical Sciences, Computer Sciences and Information and Communication Technology. This field also involves implement and employment of the necessary solutions to provide medical health services, especially for remote, inaccessible and impassable places.

### Admission Requirements:

#### Admissions Terms and Conditions:

- Passing the Entrance Exam in accordance with the rules and regulations of the Ministry of Health, Treatment and Medical Education.

#### Accepted Documents are as Follows:

- General Doctorate graduates (Medicine, Pharmacy and Dentistry)
- Graduates of B.Sc. in Nursing, Midwifery, Medical Emergencies (Pre-hospital Emergencies) from reputable universities, inside or outside Iran, that have been approved by the Ministry of Health, Treatment and Medical Education.

## Expected Competencies and Skills for Graduates at the End of the Program:

### A. Expected General Competencies:

- Reading and understanding specialized books and teaching ability,
- Ability to conduct applied research and making the research results practical,
- Providing consultation to the health agents,
- Self-empowering,
- Team working,
- Communication skills, and
- Relative project management.

### B. Expected Specific Competencies and Skills:

Expected specific capabilities are:

Exclusive Capabilities	Duties	Lesson Code(s)
Ability to manage and execute the process of providing remote health services	<ul style="list-style-type: none"> <li>- Observance and implementing technical and specialized protocols of clinical sub-branches in the process</li> <li>- Educating the patient, doctor or expert in the relevant areas, remotely or closely</li> <li>- Establishing a proper technical relationship and managing the consulting relationship, remotely / beginning and ending the relationship at the right time</li> <li>- Managing the tool maintenance and testing their accuracy</li> <li>- Managing the physician-physician and patient-physician communication and interaction</li> <li>- Completing the checklist for remote communication and confirming it</li> </ul>	06 – 07 – 12 – 13 – 09 – 10 – 11 – 14 – 15 – 17
Ability to manage and organize patients' data for decision makings in the remote health process	<ul style="list-style-type: none"> <li>- Identifying and determining the necessary data for collection before the start of the remote communication session</li> <li>- Providing patient's data to the physician at the appropriate time and in the best format</li> <li>- Working with a variety of electronic patient record systems and recording patient information and remote communication session</li> </ul>	06 – 07 – 09 – 12 – 13 – 17- 21
Ability to participate in the team of analysis,	<ul style="list-style-type: none"> <li>- Participating in the need-assessment procedure of creating a remote health system</li> <li>- Participating in choosing the best method of technical</li> </ul>	01 – 06 – 07 – 09 – 11 – 12 –

design, method selection, deployment and evaluation of remote health systems	<p>communication according to the type of clinical expertise</p> <ul style="list-style-type: none"> <li>- Participating in the creation and proper installation of a remote health system</li> <li>- Evaluating the installed remote health system / its performance and user and patient satisfaction</li> <li>- Innovation, change in revenue generation</li> </ul>	13 – 15 – 17 – 19 - 22
Ability to participate in remote health research	<ul style="list-style-type: none"> <li>- Collecting data for remote health research</li> <li>- Participating in designing the research projects in this field by considering the research method, designing the proposal and presenting it</li> <li>- Participating in research projects as a technical and clinical partner</li> <li>- Assisting in analyzing the results of studies and judging systems</li> </ul>	04 – 07 – 11 – 18 - 19
Ability to work with remote health tools and software	<ul style="list-style-type: none"> <li>- Working with software and communication tools</li> <li>- Working with software and tools for sending and receiving data to send and receive information</li> </ul>	09 – 07 – 06 – 02 – 01 – 12 – 16 - 22
Ability to use scientific resources and evidences to provide remote health services	<ul style="list-style-type: none"> <li>- Searching scientific resources in the field of remote health</li> <li>- Participating in writing / writing articles for remote health research</li> <li>- Playing the role of a lifelong learner in the field of modern science in remote health and the frontiers of science in this field</li> </ul>	03 – 04 – 05 – 18 – 19 - 21
Observance of ethics and professional commitment in providing remote health services	<ul style="list-style-type: none"> <li>- Observance of ethical protocols in the process of providing remote health services</li> <li>- Observance of principles of data and information security in the service delivery process</li> <li>- Professionalism in all stages of the remote health process</li> </ul>	08 - 17

\*Diagnostic and medical services are allowed only within the last degree of graduates of this field.

### C. Expected Procedural Skills

In this section, practical skills (Procedural Skills) are presented:

Skill	Minimum Number of Performed Skills to Learn			
	Observation	Assistance	Independent Performance	Total Time(s)
Working with remote health software and hardware	5	3	2	10
Managing and implementing the process of providing remote health services	1	1	1	3
Analyzing and critiquing examples of remote health systems and methods of their usage	2	1	1	4
Educational designing and training for remote health care recipients	1	1	1	3
Designing and implementing appropriate counseling model for remote health care recipients	1	1	1	3

### Educational Strategies:

This program is based on the following strategies:

- A combination of student- and teacher-center method
- Problem-based learning
- Evidence-based learning
- Self-directed, interactive and participatory learning strategies

### Teaching Methods and Techniques:

The followings are this programs' teaching methods and techniques:

- Face-to-face (in-person) training techniques as well as simultaneous and non-simultaneous virtual training such as virtual classroom, forum, webinar, video conferencing, simulation and ...,
- Intra-group, inter-group, interdisciplinary and inter-university seminars and conferences,
- Individual and group projects and practical tasks,
- Internship in related fields such as hospitals, clinics, offices, IT centers and universities,
- Small group discussions, workshops, journal clubs and book reading and case presentation,
- Participating in lower grade education as a teacher assistant and teaching in field-related workshops,
- Self-study and lifelong teaching.

## Student Assessment (Methods and Types):

### A- Assessment Method:

Students will be assessed by the following methods:

- Written
- Verbal
- Practical (designing and producing contents and virtual education systems, etc.)
- Interactive Computer exam (e-portfolio evaluation includes: e-Log book evaluation, exam results, articles, encouragements and hints, certificates and etc., with students' reflection and faculties' feedback)

### B- Frequency of evaluation

- Continuous
- Periodic
- Final

## Tables of the Courses:

### Table 1. Compensatory Courses:

**Table A - Deficiency or Compensatory Courses of Discontinuous Master's Program in**

#### Tele- Health

Lesson Code	Name of Course	Number of Course Credits			Number of Course Hours			Prerequisite or Concurrent
		Theoretical	Practical	Total	Theoretical	Practical	Total	
01	Basics of software programming	1	1	2	17	34	51	-
02	Principles of computer networks	2	-	2	33	-	33	-
03	Technical English language	2	-	2	34	-	34	-
04	Biostatistics and research methods *	2	-	2	32	-	32	-
05	Medical Information Systems *	0.5	0.5	1	9	17	26	-

- In addition to the course credits, the student is required to take all or a number of deficiency or compensatory courses (Table A) at the discretion of the department and with the approval of the University Graduate Council.

\*Passing these course units is mandatory for all those students who have not passed it before, as deficiency or compensatory courses.

**Table 2. Core Courses in**

**Table B: Compulsory (Core) Specialized Courses of Discontinuous Master's Program in  
Tele-Health**

Lesson Code	Name of Course	Number of Course Credits				Number of Course Hours				Prerequisite or Concurrent
		Theoretical	Practical	Internship	Total	Theoretical	Practical	Internship	Total	
06	Principles of e-Health	2	-	-	2	34	-	-	34	-
07	Tele-health 1 - Definitions and Concepts	2	-	-	2	32	-	-	32	-
08	Security, legal context and professional commitment in Tele-health	0.5	0.5	-	1	9	17	-	26	-
09	Standards and methods for evaluating Tele-health systems	2	-	-	2	34	-	-	34	7
10	Principles of online counseling and communication management in cyberspace	1	1	-	2	17	34	-	51	-
11	Communication technologies in Tele-health	1	-	-	1	17	-	-	17	-
12	Tele-health – 2 Specialized medical applications	2	-	-	2	32	-	-	32	7
13	Tele-health - 3 mobile health and tele-monitoring	2	-	-	2	34	-	-	34	6 – 7
14	Tele-health project management	1	-	-	1	17	-	-	17	7
15	Virtual education and Tele-health	1	1	-	2	17	34	-	51	-
16	Entrepreneurship in the context of health information technology	2	-	-	2	34	-	-	34	-

17	Internship	-	-	2	2	-	-	102	102	7
18	Tele-health seminar	-	1	-	1	-	32	-	32	7
19	Thesis	-	-	-	6	-	-	-	-	
<b>Total</b>		<b>28</b>								

### Table 3. Non-Core Courses in

**Table C: Optional (Non-Core) Specialized Courses - Discontinuous Master's Degree in  
Tele-Health**

Lesson Code	Name of Course	Number of Course Credits			Number of Course Hours			Prerequisite or Concurrent
		Theoretical	Practical	Total	Theoretical	Practical	Total	
20	Tele-health Economics	2	-	2	34	-	34	-
21	Intelligent systems in health	2	-	2	34	-	34	6 – 7
22	Designing and implementation of web- and mobile-based software	1	1	2	17	34	51	-
23	New approaches in Tele-health	2	-	2	34	-	34	7
<b>Total</b>		<b>8</b>						

Students are required to pass 4 course units of the above mentioned credit courses (Table C) in accordance with the subject of their thesis, the approval of the supervisor and the approval of the Graduate Council of the University.