

## **In the Name of God**

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

## **Epidemiology**

### **Degree: Master of Science (MSc)**

#### **Total Course Credits**

- Compensatory: 1
- Core: 18
- Non-core: 6
- Seminar: 2
- Dissertation: 6
- Total: 32

#### **Program Description**

The M.Sc. in epidemiology is a branch of basic medical sciences and health that evaluates the individuals and public health by collecting data and its analysis. It identifies their distribution in the society, factors affecting them, and then proposes solutions and evaluates the services provided by the health centers in different levels.

#### **Mission**

The recent century has witnessed a major change in the health patterns of the society. The changes in the birth and death patterns, age pyramid, life expectancy and patterns of the prevalent diseases in the society are evident. Changes in the prevalent diseases from infectious diseases such as Tuberculosis and cholera to cardiovascular diseases, cancers and metabolic disorders and causal models of new diseases in addition to the serious attention given to evaluation of environmental factors, work factors and psychological factors have led to development of new interests in this field and provided new grounds for doing research on public health and factors affecting it. New aspects in molecular biology and genetics are the result of the raised interest in researches on the causes of the diseases and factors affecting them.

The most important role of an epidemiologist is the analysis of health statistics, monitoring and evaluating the health programs and determining the cost-effectiveness of health plans. An epidemiologist plays an important role in health system by optimizing the costs in different health programs and levels, and also contributing to selection of the best ways in raising the public health, all of which leading to the economic and social development of the society.

## Perspective

Graduates of epidemiology enhance epidemiological thinking in the society and in different administrative parts of it. They analyze the public health data and help authorities in data analysis, making evidence-based decision and also drawing their attention to cost-effectiveness. In this regard, they help to produce full and equal access to quality health care services for all members of the community.

They also help by proposing solutions and offering effective preventive measures raising the medical sciences in the country by doing clinical researches with regard to research standards and by raising the quality of the results. It is expected that in the future we would become one of the main centers of decision making and policy making in the field of health and disease in our region and worldwide.

## Objectives

The main objective of the program is training human sources in the graduate level in order to provide the related health services in the following fields:

- Teaching and empowerment in identification of the health issues of the society
- Teaching and empowerment in identification of the behavioral patterns and the society's characteristics in various aspects
- Teaching and empowerment in scientific ways of collecting data
- Teaching and empowerment in monitoring and evaluating of programs and analysis of cost-effectiveness
- Teaching and empowerment in ways of using the statistical methods and computers in data analysis
- Teaching and empowerment in identification of the danger sources and ways of controlling them in different levels of the research

## Admission Requirements

Admission requires a B.S. degree in health related sciences from an accredited 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:
- o Stating the health related problems in a population and setting priorities
  - o Developing proposals for doing epidemiological studies
  - o Designing epidemiological studies
  - o Implementing epidemiological studies in fields
  - o Reporting epidemiological evaluations.

### Educational Strategies, Methods and Techniques\*

### Student Assessment (Methods and Types)

- Formative
- Summative
- Comprehensive exam

### Ethical Considerations\*

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

## Tables of the Courses

**Table 1. Compensatory Courses**

Code of the Course	Title of the Course	Credits	Teaching Hours			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
01	Medical Information Dissemination Systems	1	9	17	26	
	<b>Total</b>	<b>1</b>				

All students are required to pass these credits in case of lacking credits or requiring compensatory ones.

**Table 2. Core Courses**

Code of the Course	Title of the Course	Credits	Teaching Hours			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
02	Epidemiology Basics	2	34	34	68	
03	Epidemiology Methods	2	34	34	68	02
04	Biostatistics Methods 1	2	34	34	68	
05	Biostatistics Methods 1	2	34	34	68	04
06	Epidemiology of Contagious Diseases	2	34	34	68	02
07	Epidemiology of Non-Contagious Diseases	2	34	34	68	02, 03
08	Health Data Analysis Using Computers	2	17	34	51	04, 05
09	Survey Methods of Epidemiology	2	34	34	68	04, 02
10	Research Method	2	17	34	51	
	<b>Total</b>	<b>18</b>				

**Table 2. Non-Core Courses**

Code of the Course	Title of the Course	Credits	Teaching Hours			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
11	Survey Methods	2	34	34	68	04
12	Non-parametric Survey Methods	2	34	34	68	05
13	Epidemiology Modelling	2	34	34	68	02, 03, 04, 05
14	Health Economics	2	34	34	68	
15	Medical Demography	2	34	34	68	
16	Epidemiology of Non-Contagious Diseases	2	34	34	68	09, 03
17	Health Data Analysis	2	34	34	68	02, 03

	Using Computers					
18	Survey Methods of Epidemiology	2	34	34	68	05
19	Research Method	2	34	34	68	10, 05, 04, 02
20	Genetic Epidemiology	2	34	34	68	02
21	Reproductive Epidemiology	2	34	34	68	02
22	Principles of Cancer Epidemiology	2	34	34	68	02, 04, 10
23	Application of Epidemiology in Health System	2	34	34	68	03, 02
24	Internship	2		10	10	02, 04, 10
25	Social Epidemiology	2	34	34	68	
26	Principles of Health Planning and Management	2	34	34	68	
	<b>Total</b>	<b>32</b>				

The students are required to pass 6 credits from those mentioned above.

Choosing non-core credits would depend on the student's interest, dissertation and the instructors' opinion.

### **M.Sc. Thesis Proposal**

The thesis proposal describes the rationale for the proposed research and outlines its basic components. The proposal is submitted to the department's research committee members (consisting of a dissertation advisor, department's head, and department education and research representatives) for the final evaluation and approval.

### **Thesis Defense**

The student and the thesis committee are required to comply with the School of Public Health guidelines with regard to preparation of the thesis and meeting deadlines for graduation. During the thesis defense, the thesis committee will thoroughly examine the student's knowledge in the content area of the research.

