In the Name of God

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

Occupational Health Engineering

Degree: Doctor of Philosophy (PhD)

Total Course Credits

- Core: 20
- Non-core: 10
- Dessertation:20

Program Description

Occupational Health Engineering as a branch of Medical Sciences is a multidisciplinary field. A PhD in this field offers opportunities for the graduates to learn about the requirements for the health of workers, industry-based assessment, anticipation, recognition, evaluation and control of hazards arising in or from the workplace impairing the health and well-being of workers.

The graduates help in proliferating theoretical and practical aspects of Occupational Health, advancing frontiers of knowledge by conducting research, applying innovation, improving safety and health of workplaces and promoting public health by covering topics and including disciplines such as engineering, environmental sciences, chemical engineering, psychology, physics, physiology, social sciences and nano-technology.

Islamic Republic of Iran is one of countries offering this program in terms of the educational excellence, scientific products relevant to occupational health and provision of services concerning safety and health in the workplace. The main mission of the course is to train committed, knowledgeable, and effective people in occupational health engineering.

Admission Requirements

- Holding a master's degree (MSc) in one of the fields of occupational health engineering, toxicology, and ergonomics awarded by one of the home or foreign universities approved by Ministry of Health and Medical Education.
- Being eligible for entering the program on the basis of the common rules and guidelines specified for PhD students.

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:

- Design and analysis of experiments
- Strategies of health and safety promotion
- Use of standard methods and specialized equipment
- Activities in professional environment and ability to work with people
- Presentation in Multidisciplinary seminars

- Interpretation of test results

Educational Strategies, Methods and Techniques*

Student Assessment (Methods and Types)

- Formative (quizzes and Midterm Exam)
- Summative (Final Exam)
- Oral and written exams, OSLE, logbook
- Projects and presentations
- Comprehensive examination
- Monitoring the progress and completion of the dissertation

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	Credits			Hours			Prerequisite or Concurrent Courses
		Theoretical	Practical	Total	Theoretical	Practical	Total	
01	Medical Information Systems*	0.5	0.5	1	9	17	26	

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

Table 2. Core Courses

Code of the Course	Title of the Course	Credits			Hours			Prerequisite or Concurrent Courses
		Theoretical	Practical	Total	Theoretical	Practical	Total	
01	Modern Occupational Toxicology	1	1	2	17	34	51	-
02	Theories of Air Purification	3	-	3	51	-	51	-
03	Human Factors Engineering	2	1	3	34	34	68	-
04	Noise and Vibration	1	1	2	17	34	51	-

05	Heating, Cooling and Humidity	1	1	2	17	34	51	-
06	Workplace Safety	1	1	2	17	34	51	-
07	Lighting	1	1	2	17	34	51	-
08	Radiations	1	1	2	17	34	51	-
09	Seminar	-	2	2	-	68	68	-
10	Dissertation	-	-	20	-	-	-	-
Total		**11**	**9**	**40**	**187**	**306**	**493**	

Table 3. Non-Core Courses

Code of the Course	Title of the Course	Credits			Hours			Prerequisite or Concurrent Courses
		Theoretical	Practical	Total	Theoretical	Practical	Total	
01	Psychoacoustics	2	-	2	34	-	34	
02	Fluid Mechanics	2	-	2	34	-	34	
03	Instruments Analysis	1	1	2	17	34	51	
04	Industrial Management	2	-	2	34	-	34	
05	Epidemiology of Work Related Diseases	1.5	0.5	2	26	17	43	
06	Human Physiology	2	-	2	34	-	34	
07	Human and Vibration	2	-	2	34	-	34	
08	Nanotechnology and Occupational Health	2	-	2	34	-	34	
09	Risk Assessment	2	-	2	34	-	34	07
10	System Safety	2	-	2	34	-	34	07
11	Industrial and Organizational Psychology	2	-	2	34	-	34	
12	Introduction to Air Pollution Emission Models	2	1	3	34	34	68	
13	CFD Applications in Industrial Ventilation	2	1	3	34	34	68	
Total		**24.5**	**3.5**	**28**	-	-	-	

*Students should take 10 credits of non-core courses (Table 3) based on their dissertation topic and as specified by their supervisor and approved by the Postgraduate Education Council.

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