

In the name of God

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

Food Science & Technology (Quality Control)

Degree: Doctor of Philosophy (PhD)

Total Course Credits:

- Core: 18
- Non-core (Electives): 8
- Dissertation: 24

Program Description

Food science and technology draws from many disciplines such as biology, chemical engineering, and biochemistry in an attempt to better understand food processes and ultimately improve food products for general public. The PhD graduates, as the, stewards of the field, study the physical, microbiological and chemical makeup of food. By applying their findings, they are responsible for developing the safe, nutritious food and innovative packaging that line supermarket shelves everywhere. The mission of the program is to train experts to do extensive and systematic research in a variety of foods' properties and composition in order to improve production, quality and maintenance of food and food products.

Admission Requirements

Having the following degrees:

- Holding an MSc degree in: Food Science and Technology (different branches), Agricultural Engineering (the branch of Food Science and Technology), Food Chemistry, Food Microbiology, and Food Science and Technology Engineering from an accredited home or foreign university
- Being admitted in the PhD entrance exam
- Being eligible for entering the program according to the PhD educational rules and regulations.

The entrance exam includes the subjects in the following table.

Subjects of Entrance Exam	weight
Food Microbiology	2
Food Chemistry	2
Food Technology	3
Food quality Control	3
Total	10

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:

- Using principles of food technology in the production of healthy foods
- Using principles of food technology in the production foods for special patients
- Developing and utilizing modern technologies and methods in analyzing and controlling food quality
- Promoting health and safety of food in food industry
- Improving the foodstuff manufacturing processes and maintenance in order to reduce wastes and increase the product variety
- Doing specialized research on the production, control, maintenance and quality of foods

Educational Strategies, Methods and Techniques*

Student Assessment (Methods and Types)

a) Methods of assessment:

- Written and oral assessment, DOPS, OSCE, log book-based assessment

b) Types of the assessment

- Formative (Quizzes, Mid-term exam)
- Summative (Final)
- Comprehensive exam
- Monitoring the progress and completion of dissertation

Ethical Considerations*

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

Tables of the Courses

Table 1. Core Courses

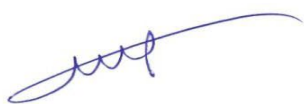
Code of the Course	Title of the Course	Credits			Teaching Hours		
		Theoretical	Practical	Total	Theoretical	Practical	Total
1	Advanced Food Biochemistry	2	1	3	34	34	68
2	Advanced Food Rheology	2	1	3	34	34	68
3	Flavors Chemistry	2	1	3	34	34	68
4	Food Formulation	2	-	2	34	-	34
5	Bioactive Food	2	-	2	34	-	34
6	Application of Modeling in Food Technology	2	-	2	34	-	34
7	Special Issue in Foods Control	-	-	1	-	34	34
8	Seminar 1	1	-	1	17	-	17
9	Seminar 2	-	1	1	-	34	34
10	Dissertation	-	-	24	-	-	-
11	Total	12	4	43	187	180	357

Table 2. Non-Core Courses

Code of the Course	Title of the Course	Credits			Teaching Hours		
		Theoretical	Practical	Total	Theoretical	Practical	Total
1	Nano Biotechnology	2	-	2	34	-	34
2	Advanced Food Packaging	2	-	2	34	-	34
3	Food Toxicology	2	-	2	34	-	34
4	Physical Chemistry	2	-	2	34	-	34
5	The Modern Methods for Food Analysis	1	1	2	17	34	51
6	New sources of Food	2	-	2	34	-	34
7	<u>Biofilm in Food Technology</u>	2	-	2	34	-	34
8	Total	13	1	12	221	34	255

Students should pass 8 credits from the course credits in Table 2, depending on the topic of their dissertation, and the approval of their supervisor and the Council of Graduate Education

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