

In the Name of God

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

Radiopharmacy

Degree: Doctorate of Philosophy (PhD)

Total Course Credits

	For students Holding PharmD	For Students Holding Degrees other Than PharmD
• Core courses	18	19
• Non-core courses	9	13
• Thesis	20	20
• Total	47	52

Program Description

With increasing expansion in the use of Radiopharmaceuticals in diagnosis, therapy and research and in order to fulfill national demands to expertise in this field starting in 1995 Department of Medicinal Chemistry of the Faculty of pharmacy of Tehran University of Medical Sciences with contributions of Iran Atomic Energy Organization established the PhD program in Radiopharmacy. The program was revised in 2002, and since 2009 is offered by an independent Department called Radiopharmacy.

Definition

The program affords individuals the scientific knowledge and skills in design, preparation, formulation and quality control of gamma and positron emitting radiopharmaceuticals for the use in research and future clinical applications in nuclear medicine. The department is actively engaged in: development of radiolabeled monoclonal antibodies, radiosensitizing agents and contrast media for MRI, nanoradiopharmacy, and molecular imaging.

Aim

To be recognized nationally and Internationally for education and research in development and safe uses of novel Radiopharmaceuticals. The main mission of the department of radiopharmacy is to offer internationally recognized and high quality education and research that fulfill the national demands to future scholars and expertise in this field.

Admission Requirements

Applicants should possess a PharmD or MSc degree in Chemistry or Immunology from an accredited college or university and a minimum qualifying score on English language test. All applicants should participate in a competitive entrance examination (written and oral interview) and those with highest scores will be admitted to the program.

Expected Competencies at the End of the Program

General Competencies*

Specific Competencies and Skills

Pharmacology, Pharmaceutical chemistry, Radiochemistry, Pharmaceutical dosage forms, Quality control testing, Instrumental methods of analysis, Radiation biology and Radiation protection basics.

Educational Strategies, Methods and Techniques*

Student Assessment (Methods and Types)

In the first two years of the program all students should complete compensatory and required courses with minimum grade of C in order to gain a broad knowledge and skills of the field. For each course students are evaluated by a combination of oral and written exams, reports and presentation of seminars. Students must choose an advisor and write a thesis proposal which should be approved by, thesis advisors, faculty members of the department and the committee on graduate studies of the college within the first two years of their studies. Upon completion compensatory and required courses and approval of thesis proposal students should pass qualifying examinations (written and oral) in order to be qualified to continue with doctoral work. Students are required to present at least two progress reports and defend their theses before the working theses committee comprising of thesis advisors, and external examiner and internal examiners appointed by the graduate committee.

Ethical Considerations*

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

Tables of the Courses

Table 1. Non-core courses

Code of the Course	Title of the Course	Credits			Hours			Prerequisite or Concurrent Courses
		Theoretical	Practical	Total	Theoretical	Practical	Total	
1	Advanced Bioinformatics	2	-	2	34	-	34	-
2	Physiology*	4	-	4	68	-	68	-
3	Instrumental Methods of AnalysesII	4	-	4	68	-	68	-
4	Manufacturing and Physico-chemical Analyses of Parenteral Products*	2	-	2	34	-	34	-
5	Medical Informatics	0.5	0.5	1	9	17	26	-
Total				13				

*For students holding PharmD

Table 2. Core courses

Code of the Course	Title of the Course	Credits			Hours			Prerequisite or Concurrent Courses
		Theoretical	Practical	Total	Theoretical	Practical	Total	
6	Physical Chemistry	3	-	3	51	-	51	-
7	Pharmacology	4	-	4	68	-	68	2
8	Advanced Biochemistry	2	-	2	34	-	34	-
9	Radiochemistry and Nuclear Chemistry	2	1	3	34	34	68	6
10	Nuclear Health Physics and Biochemical Effects of Radiation	2	-	2	34	-	34	9
11	Nuclear Pharmacy Radiobioassay	2	1	3	34	34	68	10
12	Nuclear Medicine	2	-	2	34	-	34	7,10
13	Synthesis of the Labelled Compound	2	-	2	34	-	34	-
14	Seminar 1	1	-	1	-	-	-	-
15	Seminar 2	1	-	1	-	-	-	14
16	Seminar 3	1	-	1	-	-	-	15
Total		22	2	24	323	68	391	

For students holding degrees other than PharmD, passing 19 core and 13 non-core courses is mandatory. For students holding PharmD, passing 18 core and 9 non-core courses is mandatory.

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