

Curriculum of Ph.D. in Applied Cell Sciences

Duration and Structure: Course structure and duration is based on Ph.D. programs' regulations adopted by the High Council of Medical Sciences Education Planning.

Number of Credits:

Core Courses: 18

Non-Core (elective) Courses: 6

Thesis: 20

Total: 44

Program Courses

Table A.

Shortage Courses

Code	Courses	Credits			Hours			Prerequisite(s)
		Theoretical	Practical	Total	Theoretical	Practical	Total	
01	Medical Information Systems*	0.5	0.5	1	9	17	26	-
02	General Anatomy	1	0.5	1.5	17	17	34	-
03	Histology	1	0.5	1.5	17	17	34	-
04	General Pathology	1	-	1	17	-	17	-
05	Fundamentals of Pharmacology	2	-	2	34	-	34	-
06	Fundamentals of Immunology	1	-	1	17	-	17	-

07	Cellular and Molecular Biology	2	-	2	34	-	34	-
08	Biostatistics and Research Methodology	1	1	2	17	34	51	-
09	Genetics	2	-	2	34	-	34	-
10	Embryology	2	-	2	34	-	34	-
11	Hematology	1	1	2	17	34	51	-
12	Biochemistry	2	-	2	34	-	34	-
13	Laboratory and Transgenic Animals	1	1	2	17	34	51	-
14	Bioethics	2	-	2	34	-	34	-
Total				23				

According to the department's schedule and by the approval of the Post-Graduate Education Council, students who have not taken the aforementioned courses (Table A) in their previous academic studies are required to pass them in addition to the Ph.D. program courses.

According to the department schedule and by the approval of the Post-Graduate Education Council, students are due to pass 16 courses of table A in addition to the Ph.D. program courses.

Passing courses marked with * is compulsory for the students who have not taken it previously.

Table B.
Core Courses

Code	Courses	Credits			Hours			Prerequisite(s)
		Theoretical	Practical	Total	Theoretical	Practical	Total	
15	Advanced Cellular and Molecular Biology	2	-	2	34	-	34	07
16	Principles of Stem Cells	1	1	2	17	34	68	02-03-04-05-06
17	Advanced Cell signaling	2	1	3	34	34	68	-
18	Application of Cell therapy and Cell banking	0.5	1.5	2	9	51	60	16
19	Transplantation Immunology	2	-	2	34	-	34	06
20	Advanced Cellular and Molecular Techniques	1	2	3	17	68	85	07
21	Principles of Biological Products standardization and biosafety	2	-	2	34	-	34	-
22	Bioinformatics, Research Methodology, Clinical trial Methods	1	1	2	17	34	51	07-08
23	Thesis			20				-
	Total			38				

Table C.
Non-Core (Elective) Courses

Code	Courses	Credits			Hours			Prerequisite(s)
		Theoretical	Practical	Total	Theoretical	Practical	Total	
24	Genetic Engineering	2	1	3	34	34	68	-
25	Application of Nanotechnology and Biotechnology in Cell Therapy	3	-	3	-	0	51	-
26	Principles of Biomaterial	2	1	3	34	34	68	
27	Pathology of Target Diseases in Cell Therapy	3	-	3	-	51	51	03
	Total	12						

After acquiring the supervising professors' consent and the approval of Post-Graduate Education Council, students are required to take 6 courses of the aforementioned courses (Table C) that are relevant to the theme of their Ph.D. thesis.