



**Faculty of Pharmacy  
Tabriz University of Medical Sciences**

**Pharm.D Courses  
Table 1. General Courses**

Code	Course Name	Number of Credits	Hours			Prerequisite or Concurrent Courses
			Theoretical	Practical	Total	
1	Two Courses from Islamic Theories Courses*	4	68	-	68	-
2	One course from Islamic Ethics Courses*	2	34	-	34	-
3	One Course from Islamic Revolution of Iran Courses*	2	34	-	34	-
4	One Course from Islamic History and Civilization Courses*	2	34	-	34	-
5	One Course from Islamic Sources Courses*	2	34	-	34	-
6	Persian Literature	3	51	-	51	-
7	General English	3	51	-	51	-
8	Sports 1	1	-	34	34	-
9	Sports 2	1	-	34	34	8
10	Family and Population Planning	2	34	-	34	-
11	Islamic and Iranian culture and civilization	2	34	-	34	-
<b>Total</b>			<b>24</b>			

\*Note: Completing these courses is according to the titles of Islamic Education General Courses (the following table), ratified on meeting 542 of the Supreme Council of the Cultural Revolution dated 2004/07/13.

	Sub-discipline	Course Code	Course Title	Credits	Hours			Prerequisite
					Theory	Practice	Total	
Islamic Education General Courses	1- Theoretic Fundamentals of Islam	011	Islamic Thought 1	2	34		34	
		012	Islamic Thought 2	2	34		34	
		013	Human in Islam	2	34		34	
		014	Social and Political Rights in Islam	2	34		34	
	2- Islamic Ethics	021	Philosophy of Ethics	2	34		34	
		022	Islamic Ethics	2	34		34	
		023	Ethics of Living	2	34		34	
		024	Practical Theosophy of Islam	2	34		34	
	3- Islamic Revolution	031	Islamic Revolution of Iran	2	34		34	
		032	Constitutional Laws of Islamic Republic of Iran	2	34		34	
		033	Political Thoughts of Imam Khomeini	2	34		34	
	4- Islamic History and Civilization	041	History of Islamic Culture and Civilization	2	34		34	
		042	Analytical History of Early Islam	2	34		34	
		043	History of Imamah	2	34		34	
	5- Islamic Resources	051	Quran Thematic Commentary	2	34		34	
		052	Nahj al-Balagha Thematic Commentary	2	34		34	
	<b>Total</b>				<b>120</b>	<b>408</b>	<b>408</b>	

**Table 2. Basic Courses**

Code	Course Name	Number of Credits		Hours		Number of Credits	Prerequisite or Concurrent Courses
		Theoretical	Practical	Theoretical	Practical		
01	Mathematics	3	-	51	-	3	-
02	Physics in Pharmacy (Theory)	2	-	34	-	2	-
03	Physics in Pharmacy (Practical)	-	1	-	34	1	-
04	General Chemistry, Theory	4	-	68	-	4	-
05	General Chemistry, Practical	-	2	-	64	1	-
06	Molecular Biology and Genetics	2	-	34	-	2	-
07	Anatomy (Theory and Practical)	1	0.5	17	17	1.5	-
08	Histology (Theory and Practical)	1	0.5	17	17	1.5	-
09	Analytical Chemistry (Theory)	2	-	34	-	2	General Chemistry
10	Analytical Chemistry (Practical)	-	2	34	-	2	General Chemistry
11	Organic Chemistry 1 (Theory)	3	-	51	-	3	General Chemistry
12	Organic Chemistry 1 (Practical)	-	1	34	-	1	General Chemistry
13	Organic Chemistry 2 (Theory)	3	-	51	-	3	Organic Chemistry 1
14	Organic Chemistry 2 (Practical)	-	1	-	34	1	Organic Chemistry 1
15	Fundamental Biochemistry (Theory)	3	-	51	-	3	-
16	Fundamental Biochemistry (Practical)	-	1	-	34	1	-
17	Physiology 1	4	-	64	-	4	Anatomy
18	Physiology 2 (Theory)	4	-	64	-	4	Physiology 1, Concurrent with Biochemistry
19	Physiology 2 (Practical)	-	1	-	1	1	Physiology 1, Concurrent with Biochemistry
20	First Aids and an Introduction to Medical Equipment	1	1	17	34	2	-
21	Microbiology (Theory)	3	-	51	-	3	Molecular Biology and Genetics
22	Microbiology (Practical)	-	1	-	34	1	Molecular Biology and Genetics
23	Virology	1	-	17	-	1	Simultaneously with Microbiology
24	Parasitology and Mycology (Theory)	3	-	51	-	3	Molecular Biology and Genetics
25	Parasitology and Mycology (Practical)	-	1	-	34	1	Molecular Biology and Genetics
26	Immunology (Theory)	3	-	51	-	3	Microbiology, Parasitology and Mycology
27	Immunology (Practical)	-	1	-	34	1	Microbiology, Parasitology and Mycology
28	Health Care Principles	1	-	17	-	1	-

<b>Total</b>	<b>44</b>	<b>14</b>			<b>58</b>
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Note1: Practical courses are not offered before Theoretical courses.

Note2: Theoretical and practical courses are offered simultaneously. In case that these courses are not taken in the same semester, theoretical courses are prerequisite to theoretical ones.

**Table 3. Specialized Courses**

Code	Course Name	Number of Credits		Hours		Number of Credits	Prerequisite or Concurrent Courses
		Theoretical	Practical	Theoretical	Practical		
29	Psychology*	2	-	34	-	2	-
30	Sociology and Anthropology*	2	-	34	-	2	-
31	Clinical Biochemistry	2	-	34	-	2	Fundamental Biochemistry
32	Medicinal Plants (Theory)	2	-	34	-	2	-
33	Medicinal Plants (Practical)	-	1	-	34	1	-
34	Pharmacognosy1	2	-	34	-	2	Medicinal Plants
35	Pharmacognosy- 2 (Theory)	3	-	51	-	2	Pharmacognosy 1
36	Pharmacognosy 2 (Practical)	-	2	-	68	2	Pharmacognosy 1
37	Ethics in Pharmacy	1	-	17	-	2	-
38	Medicinal Chemistry 1	3	-	51	-	3	Organic Chemistry and Pharmacology
39	Medicinal Chemistry 2	3	-	51	-	3	Medicinal Chemistry 1
40	Medicinal Chemistry 3	3	-	51	-	3	Medicinal Chemistry 2
41	Pharmacology 1	4	-	68	-	3	Physiology 2 and Fundamental Biochemistry
42	Pharmacology 2 (Theory)	4	-	68	-	4	Pharmacology 1
43	Pharmacology 2 (Practical)	-	1	-	34	1	Pharmacology 1
44	Toxicology (Theory)	2	-	34	-	2	Pharmacology 2
45	Toxicology (Practical)	-	2	-	68	2	Pharmacology 2
46	Poisoning Control	2	-	34	-	42	Toxicology, Pharmacology, First Aid
47	Physical Pharmacy 1	2	-	34	2	2	Mathematics and concurrently with Pharmaceutics 3
48	Physical Pharmacy 2	2	-	34	-	2	Physical Pharmacy 1
49	Pharmaceutics 1 (Introduction)	2	-	34	-	2	-
50	Pharmaceutics 2 (Solids) - Theory	3	-	51	-	3	Pharmaceutics 1
51	Pharmaceutics 2 (Solids) - Practical	-	1	-	34	1	Pharmaceutics 1
52	Pharmaceutics 3 (Liquids and Injectables) - Theory	3	-	51	-	3	Pharmaceutics 1
53	Pharmaceutics 3 (Liquids and Injectables) - Practical	-	1	-	34	1	Pharmaceutics 1
54	Pharmaceutics 4 (Semi-solids) - Theory	2	-	34	-	2	Pharmaceutics 1
55	Pharmaceutics 4 (Semi-solids) - Practical	-	1	-	34	1	Pharmaceutics 1
56	Pharmaceutics 5 (Novel systems) - Theory	2	-	34	-	2	Pharmaceutics 4
57	Pharmaceutics 5 (Novel systems) - Practical	-	1	-	34	1	Pharmaceutics 4
58	Cosmetics	2	-	34	-	2	Pharmaceutics 4
59	Pharmacotherapy 1	3	-	51	-	3	Pharmacology, Physiology
60	Pharmacotherapy 2	3	-	51	-	3	Pharmacotherapy 1
61	Pharmacotherapy 3	3	-	51	-	3	Pharmacotherapy
62	Pharmacoeconomics	2	-	34	-	2	Mathematics
63	Technical English	2	-	34	-	2	General English
64	Pharmaceutical and	2	-	34	-	2	Technical English

	Medicinal Terminology						
65	Nutrition and Therapeutic Diets	3	-	51	-	3	Fundamental Biochemistry, Analytical Chemistry
66	Biopharmaceutics and Pharmacokinetics	3	-	51	-	3	Mathematics, Biostatistics, Pharmaceutics 5, Pharmacology 2
67	Biological Products	2	-	34	-	2	Immunology
68	Cell Culture	1	-	17	-	1	Pharmaceutical Biotechnology, Molecular Biology and Genetics
69	Microbial Control of Drugs (Theory)	2	-	34	-	2	Microbiology, Pharmaceutics 5
70	Microbial Control of Drugs (Practical)	-	1	-	34	1	Microbiology, Pharmaceutics 5
71	Physicochemical control of Drugs (Theory)	2	-	34	-	2	General Chemistry, Analytical Chemistry, Instrumental Analysis
72	Physicochemical Control of Drugs (Practical)	-	1	34	34	1	General Chemistry, Analytical Chemistry, Instrumental Analysis
73	Biostatistics (Theory)	2	-	34	-	2	Mathematics
74	Biostatistics (Practical)	-	1	-	34	1	Mathematics
75	Instrumental Methods of Analysis (Theory)	3	-	51	-	2	Analytical Chemistry, Organic Chemistry
76	Instrumental Methods of Analysis (Practical)	-	1	-	34	1	Analytical Chemistry, Organic Chemistry
77	Pharmaceutical Biotechnology	3	-	51	-	3	Molecular Biology and Genetics
<b>Total</b>		<b>89</b>	<b>14</b>			<b>103</b>	

\* " Psychology" and "Sociology and Anthropology" can be replaced by two other courses from the elective courses (Table 5)

**Table 4. Practice Experience and Thesis**

Code	Course Name	Number of Credits		Hours				Credits	Prerequisite or Concurrent Courses
		Theoretical	Practical	Theoretical	Practical	Practice experience	Advanced practice experience		
78	Community Pharmacy Introductory Practice Experience					102		2	Pharmacology 2
79	Hospital Pharmacy Introductory Practice Experience					102		2	Pharmacotherapy 3
80	Industrial Pharmacy Introductory Practice Experience					102		2	Pharmaceutics 1 to 4
81	Community Pharmacy Advanced Practical Experience						306	6	Pharmacotherapy 3; Community Pharmacy Introductory Practice Experience
82	Industrial or Hospital Pharmacy Advanced Practice Experience						306	6	Pharmacotherapy 3; Concurrent with Industrial Pharmacy Introductory Practice Experience
83	Thesis 1		2					2	140 Credits

								Completed
84	Thesis 2		2				2	
85	Thesis 3		4				4	
<b>Total</b>			8		6	12	26	

**Table 5. Elective Courses**

Code	Course Name	Number of Credits		Hours		Number of Credits	Prerequisite or Concurrent Courses
		Theoretical	Practical	Theoretical	Practical		
86	Organic Chemistry 3	3		51		3	
87	Medicinal Chemistry		1		34	1	
88	Instrumental Analysis Methods 2	2		34		2	
89	Radiopharmacy	2		34		2	Medicinal Chemistry and Pharmacology 2
90	Drug Control and Analysis	3			51	3	
91	Polymers and Applications in Pharmacy	2		34		2	
92	Pharmaceutics 6	2		34		2	
93	Biopharmaceutics and Pharmacokinetics		2		68	2	
94	Modeling in Pharmacokinetics	1	1	17	34	2	
95	Cosmetics		1		34	1	
96	Drugs and Toxicity Information Science	2		51		2	
97	Clinical Pharmacy	2		34		2	
98	Plant Cell Culture (Theory)	2		34		2	Pharmacognosy 2
99	Plant Cell Culture (Practical)		1	34		2	Plant Cell Culture (Theory)
100	Plant Chemistry	2		34		2	
101	Traditional Medicine and Supplementary Medicine	2		34		2	Pharmacognosy 1,2
<b>Total</b>						32	