



Faculty of Pharmacy
Tabriz University of Medical Sciences

Ph.D Courses of Pharmaceutical Biotechnology

Table 1. Compensatory courses

Code	Course title	Credit			Hours		
		Theoretical	Practical	Total	Theoretical	Practical	Total
01	Medical Informatics	0.5	0.5	1	9	17	26
02	Microbiology	3	none	3	51	none	51
03	Industrial Pharmacy	3	none	3	51	none	51
04	Biochemistry	4	none	4	68	none	68
05	Pharmacology	2	none	2	34	none	34
06	Instrumental Analysis	3	none	3	51	none	51
15.5	0.5	16			264	17	281

Table 2. Core courses

Code	Course title	Credit			Hours		
		Theoretical	Practical	Total	Theoretical	Practical	Total
07	Cellular & Molecular Biology	3	None	3	51	none	51
08	Genetic Engineering & Molecular Genetics	3	None	3	51	none	51
09	Biotechnological Process 1	2	None	2	34	none	34
10	Biotechnological Process 2	2	None	2	34	none	34
11	Bioinformatics	2	None	2	34	none	34
12	Protein Chemistry	3	None	3	51	none	51
13	Methods in Biotechnology	none	3	3	none	102	102
Total		15	3	18	255	102	357

Table 3. Non-core courses

Code	Course title	Credit			Hours		
		Theoretical	Practical	Total	Theoretical	Practical	Total
14	Immunology	2	none	2	34	none	34
15	Mammalian Cell Culture	2	none	2	34	none	34
16	Protein-based Drug Formulation	2	none	2	34	none	34
17	Nanobiotechnology	2	none	2	34	none	34
18	Industrial Enzymology	2	none	2	34	none	34
19	Quality Control of Biologicals	2	none	2	34	none	34
Total		12	none	12	204	none	204

Student should take 8 out of 12 credits specified by the corresponding department.

Table 4. Thesis

Thesis	Credit
Thesis 1	5
Thesis 2	5
Thesis 3	6
Thesis 4	6
Total	22