Tissue Engineering

Degree: Doctor of Philosophy (Ph.D.)

Table 1. Compensatory Courses

Course Code	Title of the Course	Credits			Teaching Hours			Prerequisite courses
		Theoretical Credit	Practical Credit	Total Credits	Theoretical Hours	Practical Hours	Total Hours	
01	Medical Informatics Systems*	0.5	0.5	1	9	17	26	---
02	General Anatomy and Embryology	1.5	0.5	2	26	17	43	---
03	Bioinformatics	2	1	3	34	34	68	---
04	Fundamentals of Biocompatibility	1.5	0.5	2	26	17	43	---
05	Histology	1	0.5	1.5	17	17	34	---
06	Cell Physiology	1	---	1	17	---	17	---
07	Pathology	1	---	1	17	---	17	---
08	Genetics	1	---	1	17	---	17	---
09	Pharmacology	1	---	1	17	---	17	---
10	Cellular and Molecular Biology	2	---	2	34	---	34	---
11	Biostatistics and Research Methodology	2	---	2	34	---	34	---
12	Animal Model Studies	1	1	2	17	34	51	---
13	Biochemistry	2	---	2	34	---	34	---
14	Principles of Risk Management*	1	1	2	17	34	51	---
Total				23.5				

*This course is compulsory to take for all students who had not taken the course previously.

Students should select up to a maximum of 16 credits from Table 1 in accordance with the regulations set by the supervisor and the post-graduate committee of the university.

Table 2. Core Courses

Course Code	Title of the Course	Credits			Teaching Hours			Prerequisite courses
		Theoretical Credit	Practical Credit	Total Credits	Theoretical Hours	Practical Hours	Total Hours	-
15	Principles of Tissue Engineering	2	---	2	34	---	34	05
16	Principles of Organogenesis and Tissue Repair	2	---	2	34	---	34	---
17	2D & 3D Cell Culture	1	1	2	17	34	51	---
18	Cellular, Molecular, and Tissue Evaluation Methods	1	1	2	17	34	51	10
19	Bioactive Materials Release Systems	2	---	2	34	---	34	15
20	Immunology	2	---	2	34	---	34	---
21	Fabrication and Characterization Methods of Tissue Matrices	1	1	2	17	34	51	---
22	Principles of Good Manufacturing Practice (GMP) and Cleanroom Operations	1	1	2	34	34	68	---
23	Thesis	---	---	20		---	---	---

Table 3. Non-core (Electives) Courses

Course Code	Title of the Course	Credits			Teaching Hours			Prerequisite courses
		Theoretical Credit	Practical Credit	Total Credits	Theoretical Hours	Practical Hours	Total Hours	
24	Principles of Clinical Trials	2	---	2	34	---	34	---
25	Novel Systems	2	---	2	34	---	34	---
26	Genetic Engineering and Gene Therapy	2	---	2	34	---	34	---
27	Application of Nanotechnology in Tissue Engineering	2	---	2	34	---	34	---
28	Bioethics	2	---	2	34	---	34	---
29	Cell, Tissue, and Organ Banks	2	---	2	34	---	34	---

Students should select 6 credits from table 3 in accordance with the regulations set by the supervisor and the post-graduate committee of the university.