HISTOLOGY

1	Course Title:	HISTOLOGY	
2	Course Code:	BYL2002	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Dr. Ögr. Üyesi RAHŞEN KAYA	
15	Course Lecturers:	Prof. Dr. Sibel TAŞ	
16	Contact information of the Course Coordinator:	Prof. Dr. Sibel TAŞ Uludağ Üniversitesi, Fen-Edebiyat Fakültesi, Biyoloji Bölümü e-posta: smeral@uludag.edu.tr Telefon: 0 (224) 294 1795	
17	Website:		
18	Objective of the Course:	Teaching the types and cellular structures of epithelial, connective, cartilage, bone, blood, muscle and nerve tissues seen in vertebrate animals.	
19	Contribution of the Course to Professional Development:	Knows the types and cellular structures of epithelial, connective, cartilage, bone, blood, muscle and nerve tissues seen in vertebrate animals.	
20	Learning Outcomes:		
		1	Knows the histology and its method of study, tissue processing and types of microscopes.
		2	Knows the structure, types, and functions of epithelial tissue cells.
		3	Knows the structure of fibers and structure, types, and functions of connective tissue cells.
		4	Knows the structure, types, and functions of cartilage tissue cells and cartilage formation.
		5	Knows the structure, types, and functions of bone tissue cells and bone formation.
		6	Knows the structure, types, and functions of blood cells, plasma, hematopoiesis and lymph.
		7	Knows the structure, types, and functions of muscle tissue cells and mechanisms of muscle contractions.
		8	Knows the structure, types, and functions of neurons and glial cells.
		9	
		10	
21	Course Content:		
	Course Content:		

Week	Theoretical	Practice
1	Intruction to the histology and its methods of study. Tissue processing. Types of microscopes. Histochemistry, Cytochemistry and immunocytochemistry.	
2	The forms and characteristics of epithelial cells. Bazal lamina and basement membrane. Intercellular junctions. Specializations of the cell surface.Types of epithelia. Covering epithelia (simple, stratified, pseudostratified).	
3	Glandular epithelia and its types. General biology of epithelial tissues. Renewal of epithelial cells. Serous, mucous and sero-mucous glands. Neuroendocrine system, myoepithelial cells. Steroid secreting cells.	
4	Ground substance and matrix of connective tissue. Cells of the connective tissue /fibroblasts, macrophages & the mononuclear phagocyte system, mast cells, plasma cells . adipose cells, leukocytes).	
5	Fibers of connective tissue. Collagen fibers. Biosynthesis of collagen type I. Reticuler fibers. The elastic fiber system.	
6	Types of connective tissue. Connective tissue proper (dense and loose). Elastic tissue. Reticular tissue. Mucous Tissue. Adipose tissue.	
7	Introduction to cartilage. Hyaline [illegible] disks.	
8	Introduction to bone. Bone cells (osteoblasts, [illegible] Periosteum ve endosteum. Types of bone, primary and secondary bone tissue.	
9	[illegible] ossification. Endochondral ossification. [illegible] Effects of nutritional deficiencies hormones acting on bone tissue.	
10	[illegible] plasma. Stainin of blood cells. Erythrocytes, [illegible]	
11	Hematopoiesis. Stem cells, growth factor and [illegible] marrow. Maturation of erythrocytes and differentiation. Granulopoiesis. Maturation of granolocytes. Maturation of lymphocytes and monocytes. Origin of platelets.	
12	Introduction muscle tissue. Skeletal muscle. Organization of skeletal muscle. Organization of skeletal muscle fibers. Sarcoplasmic reticulum & transverse tubule system.	
13	Mechanism of contraction. Innervation. Muscle spindles & Golgi tendon organs. System of energy production. Other components of the sarcoplasm. Cardiac muscle. Smooth muscle. Regeneration of muscle tissue.	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	3.00	42.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm Exams	1	25.00	25.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Total Work Load			120.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

14	Introduction to nerve tissue. Development of nerve tissue. Neurons. Cell body. Dendrites. Axons. Membran of potentials. Synaptic communications. Glial cells and neuronal activities.	

22	Textbooks, References and/or Other Materials:	1. Genel Histoloji, Prof. Dr. Turan AKAY. 9. Baskı, Palme Yayıncılık 2014. 2. Junqueria's Basic Histology Text and Atlas, 13th Edition. 3. Di Fiore's Atlas of Histology with Functional Correlations 12th Edition. 4. Wheater's Functional Histology A Text and Color Atlas, 5th Edition. 5. Histology A Text and Atlas With Correlated Cell and Molecular Biology 6th Edition - Histology Ross. 6. Netter's Essential Histology.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		The Test or Written Examination

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK2	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK3	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK4	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK5	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK6	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK7	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0
ÖK8	3	2	0	0	3	0	0	0	0	0	0	3	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**