

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:	Prof. Dr. SİBEL TAŞ
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.
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21	Course Content:	
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Week	Theoretical	Practice		
1	Introduction 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. Basal 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. Reticular 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			
Activities		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Tasks.			
8	Introduction to bone. Bone cells (osteoblasts	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Self study	Periosteum ve endosteum. Types of bone, primary and secondary bone tissue.	14	3.00	42.00
Homeworks		0	0.00	0.00
Projects	Ossification. Endochondral ossification. Mechanisms of calcification. Bone growth and	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exams	Effects of nutritional deficiencies hormones acting on bone tissue	1	25.00	25.00
Others		0	0.00	0.00
Final Exams	Plasma. Stainin of blood cells. Erythrocytes,	1	25.00	25.00
Total Work Load				120.00
Total work load/ 30 hr				4.00
ECTS Credit of the Course				4.00
	marrow. Maturation of erythrocytes and differentiation. Granulopoiesis. Maturation of granulocytes. 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.			

