




DISCIPLINE SHEET

1.-Info about the program

FOUNDATION FOR DEVELOPMENT AND MANAGEMENT	
1.2-Faculty	FACULTY OF MEDICINE
1.3-Departament	Preclinical/Fundamental Disciplines
1.4-Study domain	Health
1.5-Study cycle	Bachelor
1.6-Study program/ Calification	Medicine-English



2.-Info about discipline

2.1- Name of the discipline				HISTOLOGY-II				
2.2-Course lecturer				Lect. Dr. PLĂMĂDEALĂ Petru , MD, PhD				
2.3-Seminary lecturer				1. Assist.Lect.Univ. Teaching Assistant BURLEC Dora , PhD(c), MD 2-Assist. Lect. Dr. CRACIUN Gabriela-Giorgiana , MD, PhD				
2.4-Year of study	II	2.5 Semester	II	2.6 Evaluation type	Exam	2.7. Discipline regime	Content	DF
							Mandatory	DOB

3. -Total time (hours of didactic activity per semester)

3.1-Number of hours per week	4	3.2 -course	2	3.3- laboratory	2
3.4-Total hours of the curriculum	56	3.5 -course	28	3.6 -laboratory	28
Distribution of time					Hours
Study after manual, course support, bibliography and notes					10
Additional documentatin in the library, on the specialized electronic platforms and on the field					4
Training seminars/laboratories/projects, themes, papers,portofolios and essays					2
Tutoring					1
Examination					2
Other activities					-
3.7-Individual study hours	19				
3.8-Total hours per semester	75				
3.9-Credit number	3				

4.-Preconditions (if applicable)

4.1.-Curriculum	Cellular biology, anatomy and embriology
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4.2.-Learning Outcomes

5.-Conditions (where applicable)

5.1. -Course Conduct	Amphitheatre
5.2.-conducting the seminar/laboratory	In the wards, near the patient's bed

6. Learning outcomes

Knowledge	Identifies, describes and explains fundamental notions regarding the characteristics of the healthy human body, structural (anatomical, histological, cellular and molecular) and functional (physiological, biochemical, biophysical), as well as the principles of methods for investigating biological functions.
Skills	Correctly interpret and apply fundamental notions regarding the structure and functions of the human body and methods for investigating biological functions
Responsibilities and autonomy	Integrates fundamental notions and methods of investigating biological functions, formulates and assumes reasoned conclusions regarding the state of health or disease.

7.-Objectives of the discipline (resulting from the grid of specific skills accumulated)

7.1 -General objective of the discipline	Acquire histology knowledge in order to use it to pass compulsory histology exams and use knowledge from scale in future clinical practice.
7.2- Specific objectives	Examination of microscopic preparations. Morphological, histochemical, immunohistochemical stains. Recognition of the normal structure of cells and tissues. Fundamental types of tissues. Histology of devices and systems. Knowledge of the criteria for diagnosing organs and the pathological implications of normal structures.



8.-Contents

8. 1-Course (homework, number of hours, bibliography)	hours / week	Teaching methods
1.-Bone tissues. Definition, general characteristics and classification. Bone tissue cells: osteoprogenitors, osteoblasts, osteocytes and osteoclasts. Bone extracellular matrix. General structure of bone tissue. Types of bone tissue. Bone as an organ	2	Active and Interactive Video Projection
2.-Endomembranous osteogenesis and chondroid tissue. Endochondral osteogenesis. Growth of bones in length. Bone remodeling. Fracture repair. Histology of joints. Muscle tissues. Definition, general characteristics, histogenesis and classification. Skeletal striated muscle tissue. Myofilaments and myofibrils.	2	Active and Interactive Video Projection
3.-Types of muscle fibers. Contraction mechanism. Motor innervation of skeletal striated muscle. Sensitive innervation. Cardiac striated muscle tissue. Nodal tissue. Smooth muscle tissue. The process of contraction in smooth muscle tissue. Injury, repair and regeneration of muscle tissue	2	Active and Interactive Video Projection
4.-Tissue and nervous system. General components and properties. Phylogenesis, embryogenesis and histogenesis.	2	Active and Interactive Video Projection
5.-Neural stem cell. The neuron. Classification and types of neurons. The body of the neuron, the dendrites and the axon. Axonal transport system. Synapses. Synaptic transmission. Neuromediators. Support cells. Astrocytes. Oligodendrocytes. Microglia. Schwann cells and myelin sheath. Satellite cells. Ependymal cells, choroidal plexuses and cerebrospinal fluid	2	Active and Interactive Video Projection
6.-Organization of the central nervous system. Gray matter and white matter. Brain nuclei. The cerebral cortex. Cerebellum. Spinal cord. CNS conjunctive coverings. Blood-brain barrier.	2	Active and Interactive Video Projection
7.-Organization of the SNP. Nerve ganglia. Nerve fibers. Connective components of the peripheral nerve. Sensitive receptors. Autonomic nervous system. The cellular basis of learning and memorization. The response of neurons to insult and nerve regeneration.	2	Active and Interactive Video Projection
8.-Blood. Definition, components and general functions. Blood plasma. Figurative elements of blood: erythrocytes,	2	Active and Interactive Video Projection
9.-Blood platelets, neutrophil granulocytes, eosinophilic granulocytes, basophilic granulocytes, lymphocytes, plasma cells, monocytes..	2	Active and Interactive Video Projection



10.-Leukocyte Formula Practical Applications of Blood Cytology	2	Active and Interactive Video Projection
11.-Hematopoiesis. Definition and general characteristics. Major stages of hematopoiesis. Intrauterine hematopoiesis. Postnatal hematopoiesis. Erythropoiesis. Granulocytopoiesis. Thrombocytopoiesis. Lymphocytopoiesis. Plasmacytopoiesis. Monocytopoiesis. Normal myelogram. Regulation of hematopoiesis.	2	Active and Interactive Video Projection
12.-Microscopic criteria for the recognition of blood and spinal cord figurative elements. Hematogenous marrow transplant (extra-program).	2	Active and Interactive Video Projection
13.-Hematolymphopoietic organs. General characters. Myeloid tissue and hematogenous marrow. Types of lymphoid tissue. lymphoid follicle. The thymus and the histophysiology of immunity. Lymph node – structure and histophysiology.	2	Active and Interactive Video Projection
14.-Spleen - structure and functions. Tonsils. Lymphoid tissue associated with mucous membranes. Value of histological diagnosis in lymphoid tissue lesions (extra-program).	2	Active and Interactive Video Projection
<p>Mandatory bibliography:</p> <ol style="list-style-type: none"> 1.-Histology for Pathologists by Stacey E. Mills, 2016 2.-Basic histology – Junqueira LC, Carneiro J, Lange Med Publ, 2013. 3.-Junqueira's Basic Histology: Text and Atlas (14 thed.) - Mescher, A.L. New York, NY: McGraw-Hill Medical, 2016. 4.-Histology and Cell Biology: An Introduction to Pathology – Kierszenbaum, A.L., & Tres, L.L (Fourth Edition). Philadelphia, PA: Saunders Elsevier, 2015. 5.-Netter's Essential Histology (Second Time)—Ovalle, W.K., & Nahirney, P.C., Philadelphia, PA: Saunders Elsevier, 2013. <p>Optional bibliography:</p> <ol style="list-style-type: none"> 1.-Histology - Atlas & Text Ed. VII-a. - Ross & Pawlina, Lippincott Williams and Wilkins, 2015. 2.-Handbook of Histology, 4th Edition - Gartner P.L., Elsevier, 2017. 3.-Mescher, Antony L. Treatise and Atlas of Histology, Bucharest: Med. Callisto, 2016 4.-Histology - Atlas & Text Ed. VII-a. - Ross & Pawlina, Lippincott Williams and Wilkins, 2015. 5.-Handbook of Histology, 4th Edition - Gartner P.L., Elsevier, 2017. 		
8. 2- Seminar (themes, number of hours, bibliography)	hours /week	Teaching methods
1. Cartilaginous tissues: hyaline, elastic and fibrous.	2	Verification of students' theoretical knowledge of the current work, proof by the student of knowledge of the dissection method, evaluation of each
2.-Bone tissue: types of bones, Havers systems. Spots: HE, orcein, trichrome, alizarin, Evans blue.	2	
3.-Bone cells. Endomembranous and endochondral ossification. Growth of bones in length. Colors: HE, trichrome	2	
4.-Muscle tissues. Skeletal striated muscle tissue. Motor plate. Cardiac striated muscle tissue. Nodal tissue.	2	



Smooth muscle tissue. Colors: HE, Heidenheim, trichrome, impregnation plate motor, anti-desmin.		student's way of working. Verification of the student's practical knowledge by identifying macroscopic anatomical elements on parts of corpses, macroscopic anatomical preparations, sections, plaster casts and anatomical plates.	
5.-Nervous tissue. Neuron and support cells. Spots: HE, toluidine blue, silver impregnation, specific neuronal enolase, glial fibrillar acid protein.	2		
6.-The nervous system. The cerebral cortex. Cerebellum. Spinal cord. Nerve ganglia.	2		
7.-Nerve fibers. Stains: HE, silver impregnation, osmium tetroxide	2		
8.-Blood. Blood smear. Recognition of figurative blood elements.	2		
9.-Leukocyte formula. Pete: May Grunwald Giemsa, Peroxidase.	2		
10.-Hematolymphopoietic organs. Hematogenous marrow and general appearance of normal myelogram.,	2		
11.-Types of lymphoid tissue. Stains: HE May Grunwald Giemsa, silver impregnation.	2		
12.-Hematolymphopoietic organs. Thymus. Stains: HE, trichrome, silver impregnation,	2		
13.-Spleen, lymph nodes. Tonsils. Stains: HE, trichrome, silver impregnation, common leukocyte antigen.	2		
14.-Repeating the blade	2		
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1.-Histology for Pathologists by Stacey E. Mills, 2016			
2.-Basic histology – Junqueira LC, Carneiro J, Lange Med Publ, 2013.			
3.-Junqueira's Basic Histology: Text and Atlas (14 thed.) - Mescher, A.L. New York, NY: McGraw-Hill Medical, 2016.			
4.-Histology and Cell Biology: An Introduction to Pathology – Kierszenbaum, A.L., & Tres, L.L (Fourth Edition). Philadelphia, PA: Saunders Elsevier, 2015.			
5.-Netter's Essential Histology (Second Time)—Ovalle, W.K., & Nahirney, P.C., Philadelphia, PA: Saunders Elsevier, 2013.			
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3.-Mescher, Antony L. Treatise and Atlas of Histology, Bucharest: Med. Callisto, 2016			
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5.-Handbook of Histology, 4th Edition - Gartner P.L., Elsevier, 2017.			

9.-Corroborating/validating the contents of the discipline with the expectations of the representatives of the epistemic community, professional associations and employers representative of the field related to the program

The contents of the discipline are in accordance with the RNCIS standards.

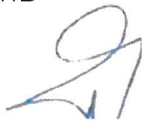
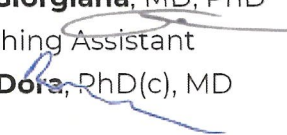
10.-Evaluation



Activity Type	10.1-Evaluation criteria	10.2-Evaluation methods	10.3-Weight of the final grade
10.4-Course	Grid exam	Final evaluation: grid test with 50 questions + 3 essay topics. It is necessary to obtain a grade of 5 both in the grid test and in the subjects (minimum 5 in each subject). Continuous assessment: grid test from the course material	60% 10%
10.5-Seminar/laboratory	- The practical exam is individual and takes place in the last week of the semester. The practical exam is mandatory: - grade 5: the student must answer 100% of the 5 questions on the minimum scale - grade 10: the student must answer 100% of all questions.	Final evaluation: practical exam	30%
10.6 -Minimum Performance Requirement			
1.-Knowledge of histological terminology. 2.-Recognition of the histological elements that make up the human body and the relationships between them.			

Date:	Signature of the discipline coordinator:	Holder of the seminar activities:
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15.05.2025	Lect. Dr. PLĂMĂDEALĂ Petru , MD, PhD 	1. Assist. Lect. Dr. CRACIUN Gabriela-Giorgiana , MD, PhD 2. Univ. Teaching Assistant BURLEC Dora , PhD(c), MD 
Date of approval in the Department		
Signature of the Director of Department		

Reprezentant legal F.D.M.
Presedinte
Prof. Univ. Dr. POSTĂVARU Nicolae

