

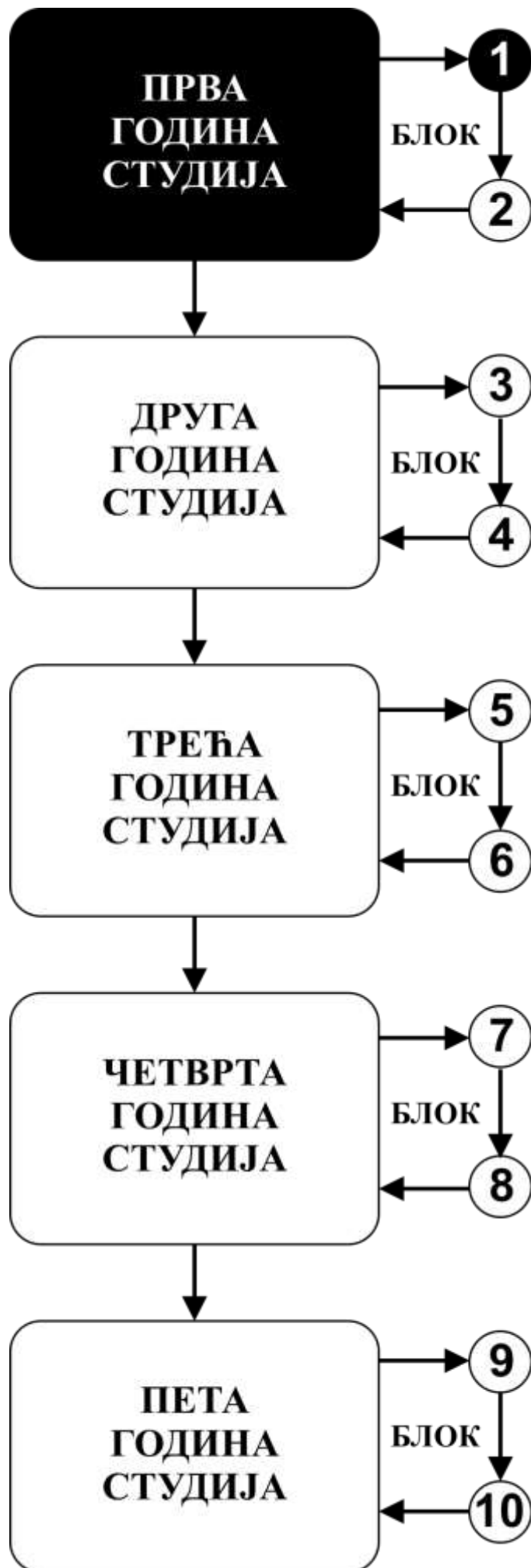


**PHARMACY
– INTEGRATED ACADEMIC STUDIES**

FIRST YEAR

2023/2024

FUNDAMENTALS OF HUMAN MORPHOLOGY



Course title:

FUNDAMENTALS OF HUMAN MORPHOLOGY

ECTS: 6

Number of active teaching hours (weekly): 4 (2 lectures teaching classes, 2 practical classes)

TEACHERS AND ASSOCIATES:

PB	First name and surname	Email	Academic title
1.	Ivana Živanović-Mačužić	ivanaanatom@yahoo.com	Full Professor
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3.	Maja Vulović	maja@medf.kg.ac.rs	Full Professor
4.	Zoran Milosavljević	zormil67@medf.kg.ac.rs	Full Professor
5.	Maja Sazdanović	sazdanovicm@gmail.com	Associate Professor
6.	Nemanja Jovičić	nemanjajovicic.kg@gmail.com	Associate Professor
7.	Jelena Milovianović	jelenamilovanovic205@gmail.com	Associate Professor
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14.	Melanija Tepavčević	melanijatepavcevic@yahoo.com	Teaching assistant

COURSE STRUCTURE:

Module	Name of the course module	Weeks	Teaching Lectures (weekly)	Practice (weekly)	Teacher – in charge
1.	Human anatomy	8	2	2	Prof. dr Ivana Živanović-Mačužić
2.	Tissues and organs	7	2	2	Prof. dr Zoran Milosavljević
					Σ30+30=60

Examination Methods:

By fulfilling the pre-exam obligations and taking the oral exam, the student can achieve a maximum of 100 points. The final grade is determined on the basis of the number of earned points, which could be earned in the following ways:

PRE-EXAM OBLIGATIONS: The student can earn up to 30 points through regular attendance at teaching lectures and practical classes and activity during the practical classes. At each practical class, the student can earn 0-2 points, in accordance with the demonstrated knowledge.

FINAL EXAM: The final exam is in the form of oral exam, which is organized within the exam terms (dates), and includes total teaching material. In this way a student can earn up to 70 points in accordance with the demonstrated knowledge.

Determination of final grade		The maximal number of points		
		Pre-exam obligations	Oral exam	Σ
1	Human anatomy	16		16
2	Tissues and organs	14		14
			70	70
Σ		30	70	100

Determination of final grade:

To pass the exam, the student must earn the minimum of 51 total points and to fulfill the following:

1. to earn more than 50% points during the pre-exam obligations
2. to pass the oral exam

Grading system

Final grade	Total number of points Points grade	Description
10	91 – 100	Excellent
9	81 – 90	Exceptionally good
8	71 – 80	Very good
7	61 – 70	Good
6	51 – 60	Passing
5	< 51	Falling

LITERATURE:

Module	The title of textbook	Authors	Publisher	Library of faculty
Human Anatomy	Human Anatomy and Physiology: For Undergraduate Students of Pharmacy, Nursing, Physiotherapy and Other Paramedical Sciences	Vipula, Atula	LaxmiPublication, 3rd edition, 2018	
Tissues and organs	NMS Histology 3rd Edition	Henrikson, Ray C. Gordon I. Kaye, Mazurkiewicz, Joseph E.	Williams & Wilkins; 3rd edition (July 1, 1997)	
	Junquera's Basic Histology: Text and Atlas	Anthony L. Mescher	15 th edition (international edition), McGraw Hill, 2018	

Program of lectures and practical classes:

THE FIRST MODULE: THE HUMAN ANATOMY

WEEK – 1:

LOCOMOTOR SYSTEM. OSTEOLOGY AND ARTHROLOGY

Teaching lectures (2 classes)	Practical classes (2 classes)
Introduction to human anatomy The anatomical terminology (nomenclature) The bones of skull and face The bones of trunk The bones of upper extremity The bones of lower extremity Articulations of the head and neck Articulations of vertebral (spinal) column Articulations of upper extremity Articulations of lower extremity	The bones of skull and face The bones of trunk The bones of upper extremity The bones of lower extremity Articulations of the head and neck Articulations of vertebral (spinal) column Articulations of upper extremity Articulations of lower extremity - Weekly exam (activity during practical class)

WEEK – 2:

LOCOMOTOR SYSTEM. MUSCULATURE

Teaching lectures (2 classes)	Practical classes (2 classes)
The muscles of the head The muscles of the neck The muscles of trunk The muscles of the upper extremity The muscles of the lower extremity	The muscles of the head The muscles of the neck The muscles of trunk The muscles of the upper extremity The muscles of the lower extremity - Weekly exam (activity during practical class)

WEEK – 3:

THE RESPIRATORY SYSTEM (SYSTEMA RESPIRATORIUM)

Teaching lectures (2 classes)	Practical classes (2 classes)
Nasal cavity (Cavitas nasi) Paranasal sinuses (Sinus paranasales) Oral cavity (Cavitas oris) Pharynx (Throat) (Pharynx) Larynx (Larynx) Trachea (windpipe) (Trachea) Principal bronchi (bronchi principales) Lungs (Pulmones) and pleura	Nasal cavity (Cavitas nasi) Paranasal sinuses (Sinus paranasales) Oral cavity (Cavitas oris) Pharynx (Throat) (Pharynx) Larynx (Larynx) Trachea (windpipe) (Trachea) Principal bronchi (bronchi principales) Lungs (Pulmones) and pleura - Weekly exam (activity during practical class)

WEEK – 4:**THE CARDIOVASCULAR SYSTEM (SYSTEMA CARDIOVASCULARE)**

Teaching lectures (2 classes)	Practical classes (2 classes)
The hart (Cor) Pericardial sac (Pericardium) The system of arterial blood vessels Pulmonary trunk (Truncus pulmonalis) Aorta (Aorta) , ascending aorta (aorta ascendens), aortic arch (arcus aortae) Descending thoracic aorta (Pars thoracica aortae) Descending abdominal aorta (Pars abdominalis aortae) Common iliac artery (A. iliaca communis)) The system of venous blood vessels The pulmonary veins (Vv. pulmonales) The system of superior vena cava The system of inferior vena cava The portal vein (V. portae) The lymphatic system Lymphatic vessels Lymph nodes (Nodi lymphoidei) Tonsils (Tonsillae) Thymus (Thymus) Spleen (Splēn s. Lien)	The hart (Cor) Pericardial sac (Pericardium) The system of arterial blood vessels Pulmonary trunk (Truncus pulmonalis) Aorta (Aorta) , ascending aorta (aorta ascendens), aortic arch (arcus aortae) Descending thoracic aorta (Pars thoracica aortae) Descending abdominal aorta (Pars abdominalis aortae) Common iliac artery (A. iliaca communis)) The system of venous blood vessels The pulmonary veins (Vv. pulmonales) The system of superior vena cava The system of inferior vena cava The portal vein (V. portae) The lymphatic system Lymphatic vessels Lymph nodes (Nodi lymphoidei) Tonsils (Tonsillae) Thymus (Thymus) Spleen (Splēn s. Lien) - Weekly exam (activity during practical class)

WEEK – 5:**THE DIGESTIVE SYSTEM (APPARATUS DIGESTORIUS)**

Teaching lectures (2 classes)	Practical classes (2 classes)
Oral cavity (Cavitas oris) Teeth (Dentes) The tongue (Lingua) Salivary glands (Glandulae salivariae) Pharynx (Throat) (Pharynx) Esophagus (gullet) (Esophagus) Abdominal cavity (Cavitas abdominalis) Peritoneum (Peritoneum) Stomach (Gaster) Small Intestine (Intestinum tenue) Large intestine (Intestinum crissum) Liver (Hepar) Gallbladder and bile ducts Pancreas (Pancreas)	Oral cavity (Cavitas oris) Teeth (Dentes) The tongue (Lingua) Salivary glands (Glandulae salivariae) Pharynx (Throat) (Pharynx) Esophagus (gullet) (Esophagus) Abdominal cavity (Cavitas abdominalis) Peritoneum (Peritoneum) Stomach (Gaster) Small Intestine (Intestinum tenue) Large intestine (Intestinum crissum) Liver (Hepar) Gallbladder and bile ducts Pancreas (Pancreas) - Weekly exam (activity during practical class)

WEEK – 6

THE URINARY SYSTEM (SYSTEMA URINARIA) THE MALE AND FEMALE GENITAL SYSTEM (SYSTEMA GENITALIA MASCULINA ET FEMININA)

Teaching lectures (2 classes)	Practical classes (2 classes)
The kidney (Ren) Urinary ducts Urinary bladder (Vesica urinaria) Urethra (Urethra) Male genital organs: * Internal male reproductive organs: - Testicles (Testis) - Epididymis (Epididymis) - Vas deferens (Ductus deferens) - Ejaculatory ducts (Ductus ejaculatorius) - Seminal vesicles (Vesicula seminalis) - Prostate gland (Prostata) - Bulbourethral glands (Glandulae bulbourethrales) * External male genital organs: - Penis (Penis) - Male urethra (Urethra masculina) - Scrotum (Scrotum) Female genital organs: * Internal female genital organs - Ovary (Ovarium) - Fallopian tube (Tuba uterina) - Uterus (Uterus) - Vagina (Vagina) * External female genital organs: - Mons pubis (Mons pubis) - Vulva (Pudendum femininum) - Clitoris (Clitoris) - Bartholin (great) and small vestibular glands (Glandulae vestibulares majores et minores)	The kidney (Ren) Urinary ducts Urinary bladder (Vesica urinaria) Urethra (Urethra) Male genital organs: * Internal male reproductive organs: - Testicles (Testis) - Epididymis (Epididymis) - Vas deferens (Ductus deferens) - Ejaculatory ducts (Ductus ejaculatorius) - Seminal vesicles (Vesicula seminalis) - Prostate gland (Prostata) - Bulbourethral glands (Glandulae bulbourethrales) * External male genital organs: - Penis (Penis) - Male urethra (Urethra masculina) - Scrotum (Scrotum) Female genital organs: * Internal female genital organs - Ovary (Ovarium) - Fallopian tube (Tuba uterina) - Uterus (Uterus) - Vagina (Vagina) * External female genital organs: - Mons pubis (Mons pubis) - Vulva (Pudendum femininum) - Clitoris (Clitoris) - Bartholin (great) and small vestibular glands (Glandulae vestibulares majores et minores) - Weekly exam (activity during practical class)

WEEK – 7:

THE NERVOUS SYSTEM (SYSTEMA NERVOSUM)

Teaching lectures (2 classes)	Practical classes (2 classes)
Functional parts of nervous system Morphological parts of nervous system The central nervous system (Systema nervosum centrale) - Brain (Encephalon) - Spinal cord (Medulla spinalis) The peripheral nervous system (Systema nervosum perifericum) - The cranial nerves (Nervi craniales) - The spinal nerves (Nervi spinales) - Ganglia (Ganglia) The structure (tissue) of the central nervous system - Spinal cord (Medulla spinalis) - Medulla oblongata (Medulla oblongata)	Functional parts of nervous system Morphological parts of nervous system The central nervous system (Systema nervosum centrale) - Brain (Encephalon) - Spinal cord (Medulla spinalis) The peripheral nervous system (Systema nervosum perifericum) - The cranial nerves (Nervi craniales) - The spinal nerves (Nervi spinales) - Ganglia (Ganglia) The structure (tissue) of the central nervous system - Spinal cord (Medulla spinalis) - Medulla oblongata (Medulla oblongata)

- Pons (Pons)
 - Mid brain (Mesencephalon)
 - Cerebellum (Cerebellum)
 - Diencephalon (Diencephalon)
 - Cerebrum (Telencephalon)
 - Limbic system
- Pathways of central nervous system
- Motor pathways
 - Sensitive pathways
 - Meninges
- Brain blood vessels

- Pons (Pons)
 - Mid brain (Mesencephalon)
 - Cerebellum (Cerebellum)
 - Diencephalon (Diencephalon)
 - Cerebrum (Telencephalon)
 - Limbic system
- Pathways of central nervous system
- Motor pathways
 - Sensitive pathways
 - Meninges
- Brain blood vessels
- Weekly exam (activity during practical class)

WEEK – 8:

**THE ENDOCRINE SYSTEM (SYSTEMA ENDOCRINUM)
SENSORY ORGANS (ORGANA SENSORIA)**

Teaching lectures (2 classes)	Practical classes (2 classes)
Pituitary gland (Hypophysis cerebri)	Pituitary gland (Hypophysis cerebri)
Pineal gland (Epiphysis cerebri)	Pineal gland (Epiphysis cerebri)
Thyroid gland (Glandula thyroidea)	Thyroid gland (Glandula thyroidea)
Parathyroid glands (Glandulae parathyroideae)	Parathyroid glands (Glandulae parathyroideae)
Suprarenal glands (Glandulae suprarenales)	Suprarenal glands (Glandulae suprarenales)
Endocrine part of pancreas (Langerhansova ostrvca)	Endocrine part of pancreas (Langerhansova ostrvca)
Diffuse neuroendocrine system	Diffuse neuroendocrine system
Eye (Organum visus s. Oculus)	Eye (Organum visus s. Oculus)
- Globe of the eye (Bulbus oculi)	- Globe of the eye (Bulbus oculi)
- Optic nerve (N. Opticus)	- Optic nerve (N. Opticus)
- Accessory organs of the eye (Organa oculi accessoria)	- Accessory organs of the eye (Organa oculi accessoria)
Ear (Organum vestibulocochleare)	Ear (Organum vestibulocochleare)
- External ear (Auris externa)	- External ear (Auris externa)
- Middle ear (Auris media)	- Middle ear (Auris media)
- Internal ear (Auris interna)	- Internal ear (Auris interna)
Olfactory organ (Organum olfactorium)	Olfactory organ (Organum olfactorium)
Taste organ (Organum gustatorium)	Taste organ (Organum gustatorium)
Sensory pathways	Sensory pathways
	- Weekly exam (activity during practical class)

THE SECOND MODULE: Tissues and organs

WEEK – 9:

EPITHELIAL TISSUE. SKIN

Teaching lectures (1,5 hours)	Labs (1,5 hours)
Epithelial tissue: Basic characteristics of the epithelial tissue. Polarity of the epithelial cells and apical cell membrane differentiations. Basement membrane. Cellular junctions. Classification of the epithelial tissue. Covering and glandular epithelia.	Covering epithelium: squamous, cuboidal, columnar, pseudostratified columnar. Stratified epithelium: stratified non-keratinized, stratified keratinized, transistional, glandular epithelium.
Skin: Structure and cell types of the epidermis. Cytological characteristics of the keratinization. Dermis and hypodermis. Hair. Sweat glands. Nail.	Skin: epidermis, dermis, hypodermis. Hair, sebaceous and sweat glands, nail structure.

Student Learning Outcomes:

- Understand the microscopic appearance and characteristics of the epithelial tissue
- Learn the basic terms and characteristics of the glandular epithelium
- Know the structure of the skin and appendages
- Understand the cell junctions and their structure

Student Learning Outcomes:

- Learn epithelial tissue classification
- Understand the types, build and ultrastructural features of the exocrine and endocrine glands
- Recognize the histology of the skin and appendages

WEEK – 10:**CONNECTIVE TISSUE. BLOOD AND HEMATOPOIESIS**

Teaching lectures (1,5 hours)	Labs (1,5 hours)
<p>Connective tissue: Basic characteristics. Connective tissue (CT) cells and extracellular matrix. Embryonic connective tissue types. Adult connective tissue types. Cartilage, structure and types. Structure of the cortical and trabecular bone tissue, woven and lamellar bone. Bone cells and extracellular matrix composition.</p> <p>Blood and hematopoiesis: Bone marrow structure. STEM cells and hematopoiesis. Red and yellow bone marrow. Erythrocytes, leukocytes, platelets. Life cycle of blood cells.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Learn the types of the connective tissue cells, fibers and ground substance. • Get to know classification of the connective tissues. • Acquire the background of the general characteristics and basic structure of the cartilage tissue types. • Learn the cell types and basic microscopic unit of the bone. • Identify the stages of the blood cells development and know the basic cytological characteristics of various blood cell types • Understand the composition of the blood 	<p>Mesenchyme and mucoid CT. Areaolar connective tissue (CT), tendon. Reticular and adipose CT. Cartilage: hyaline, elastic and fibrous. Bone tissue: Decalcified and grinded bone. Blood elements: Blood smear. Leukocyte count</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Get to know the microscopic morphology of the embryonic and connective tissue proper • Understand histological characteristics of the supportive connective tissues • Recognize the morphology of the blood cells

WEEK – 11:

MUSCLE AND NERVOUS TISSUE. NERVOUS SYSTEM

Teaching lectures (1,5 hours)	Labs (1,5 hours)
<p>Muscle tissue: Microscopic structure of the striated, heart and smooth muscle. Myofibrils and myofilaments.</p> <p>Nervous tissue: Neuron structure. Synapses. Glial cells. Nervous fibers and peripheral nerve endings.</p> <p>Nervous system: Basic histological characteristics of the nervous system. Microscopic structure of the cerebrum and cerebellum. Spinal cord. Peripheral and autonomous nervous system.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none">• Understand the histological features of the muscle tissue• Learn the role, location and basic function of the various muscle cell types.• Understand the basic build of the nervous tissue.• Know the cytological characteristics of the nervous tissue cells.• Get to know the layered organization of the cerebrum, cerebellum and spinal cord.• Understand the microscopic features of the peripheral and autonomous nervous system.	<p>Muscle tissue: Striated, heart and smooth muscle</p> <p>Nervous tissue: Neuron, Nissl bodies, nerve fibers, myelin sheath.</p> <p>Nervous system: Cerebrum, cerebellum and spinal cord.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none">• Understand the histological features of the various muscle tissues, similarities and differences.• Recognize the structure of the nerve cell as well as peripheral nerve fiber.• Get to know the layered organization of the major parts of the central nervous system.

WEEK – 12:

DIGESTIVE SYSTEM. LIVER, PANCREAS AND GALL BLADDER

Teaching lectures (1,5 hours)	Labs (1,5 hours)
<p>Digestive tract: General histological characteristics of the gastrointestinal tract and regional differences. Oral cavity, tongue, tooth. Esophagus, stomach, small and large intestine. Cytological features of the epithelial cells in the digestive tract. Salivary glands: Acini and ducts, classification of the salivatory glands. Liver, bile ducts, pancreas: General microscopic structure of the liver. Cytological features of the hepatocytes, Kupffer cells and stellate cells. Histology of the gall bladder. Microscopic organization of the endocrine and exocrine pancreas.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none">• Get to know general histological organization of the digestive tract• Understand the microscopic features of oral cavity content.• Learn the structure of the esophagus, stomach, small and large intestine.	<p>Lip, tongue, tooth. Esophagus, cardia, stomach fundus and body, gastric glands, pylorus, small intestine, large intestine, appendix.</p> <p>Salivary glands.</p> <p>Pancreas (exocrine and endocrine).</p> <p>Liver, gall bladder.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none">• Understand the general histological organization of digestive tract• Learn the microscopic characteristics of the oral cavity elements• Get to know histologic features and regional differences of the stomach• Understand the most important microscopic features of the gut wall• Know the appearance of the salivary

- Understand the structure of the salivary glands.
- Learn the histological structure of the liver and gall bladder.
- Know the microscopic characteristics of the exocrine and endocrine pancreas.

- glands
- Identify and understand the structure of the liver and gall bladder.

WEEK – 13:

CIRCULATORY SYSTEM. IMMUNE SYSTEM. ENDOCRINE SYSTEM.

Teaching lectures (1,5 hours)	Labs (1,5 hours)
<p>Circulatory system: Basics of the microscopic organization. Heart. Structure of the blood vessels. Elastic and muscular arteries, microcirculation. Veins. Endothelium. Lymph vessels.</p> <p>Immune system: Antigens, epitopes, antibodies, MHC complex. Lymphocytes and antigen-presenting cells. Primary and secondary lymph organs. Thymus, spleen, lymph node, tonsils. Gut-associated lymphoid tissue.</p> <p>Endocrine system: Histology and cytology of the pituitary gland, epiphysis, thyroid, parathyroid and suprarenal glands. Diffuse neuroendocrine system (DNES).</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Get to know the general build plan of the heart and blood vessels • Learn the detail structure of the arteries, veins and capillaries • Acquire the general features of the immune system • Understand the structure of the lymphatic organs • Know the detail microscopic organization of the endocrine glands 	<p>Heart. Blood vessels.</p> <p>Lymphatic organs. Lymph follicle, lymph node, tonsils, spleen, thymus.</p> <p>Endocrine glands: Pituitary gland, epiphysis, thyroid, parathyroid and suprarenal glands.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Recognize the histologic features of the heart and blood vessels • Acquire the general features of the immune system • Identify the structural elements of the endocrine glands

WEEK – 14:

THE URINARY SYSTEM. MALE AND FEMALE GENITAL SYSTEM

Teaching lectures (1,5 hours)	Labs (1,5 hours)
<p>Male reproductive system: Histological organization of the testes. Seminiferous epithelium. Sertoli cells. Interstitium and Leydig cells. Blood-testis barrier. Straight tubules and rete testis. Efferent duct and epididymis. Vas deferens. Accessory glands and penis.</p> <p>Female reproductive system: Histological organization</p>	<p>Male reproductive system: Testicle, epididymis, Vas deferens. Seminal vesicle, prostate, penis.</p> <p>Female reproductive system: Ovary, fallopian tube, uterus, vagina – histologic structure.</p> <p>Breast.</p> <p>Kidney. Renal corpuscle. Glomerulus. Ureter,</p>

of the ovary. Follicle maturation. Corpus luteum. Microscopic structure of the fallopian tube. Uterus: endometrium, myometrium, cyclic changes. Histology of the cervix, vagina and outer genital organs. Breast. **Urinary system:** Histological organization of the kidney – cortex and medulla. Structure of the nephron and collecting ducts. Juxtaglomerular apparatus. Ureter and urethra.

Student Learning Outcomes:

- Learn the microscopic structure of the parts of male reproductive system.
- Understand the sperm cell features
- Learn the microscopic structure of the parts of the female reproductive system.
- Understand the role and build of the breast
- Learn the microscopic structure of the parts of urinary system.
- Understand the structure and the function of the nephron
- Know the histologic features of the urinary ducts and the bladder.

urinary bladder.

Student Learning Outcomes:

- Know the details of the histological structure of the testis and ducts.
- Know the details of the histological structure of the female reproductive system parts.
- Identify the microscopic feature of the ovary
- Recognize the breast histology
- Know the details of the histological structure of the kidney, nephron and the wall of the urinary ducts.

WEEK – 15:

RESPIRATORY SYSTEM. SENSES

Teaching lectures (1,5 hours)	Labs (1,5 hours)
<p>Respiratory system: Nasal cavity and sinuses. Structure of the larynx and trachea. Lungs: Bronchopulmonary segments, bronchi, bronchiole, alveoli. Respiratory membrane structure.</p> <p>Senses: Microscopic features of the sense organs. Histology of the eye and accessory parts. Histology of the outer, middle and inner ear.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Understand the structure and the function of the nasal cavity, larynx and trachea. • Learn the histological features of the respiratory ducts and alveoli. • Know the morphology of the eye. • Know the structure of the outer, middle and inner ear. 	<p>Epiglottis, trachea. Lungs: bronchi, bronchiole, alveoli. Eye. Ear.</p> <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Identify the general characteristics of the respiratory ducts. • Understand the structure of the eye. • Understand the structure of the ear.

LECTURES AND PRACTICAL CLASSES

недеља	тип	назив методске јединице	наставник
1	L	Introduction in human anatomy. The locomotor system – osteology and arthrology.	Prof. dr Ivana Živanović-Mačužić
1	P	The locomotor system – osteology and arthrology.	Prof. dr Ivana Živanović-Mačužić dr Kristijan Jovanović
2	L	The locomotor system – muscles.	Prof. dr Maja Vulović
2	P	The locomotor system – muscles.	Prof. dr Maja Vulović dr Kristijan Jovanović
3	L	The respiratory system (systema respiratorium)	Ass. Prof. dr Predrag Sazdanović
3	P	The respiratory system (systema respiratorium)	Ass. Prof. dr Predrag Sazdanović Associate dr Ivona Banković
4	L	The cardiovascular system (systema cardiovasculare)	Prof. dr Ivana Živanović-Mačužić
4	P	The cardiovascular system (systema cardiovasculare)	Prof. dr Ivana Živanović-Mačužić dr Melanija Tepavčević
5	L	The digestive system (apparatus digestorius)	Prof. dr Maja Vulović
5	P	The digestive system (apparatus digestorius)	Prof. Maja Vulović dr Miloš Stepović
6	L	Urinary system (systema urinaria) Male and female genital organs (systema genitalia masculina et feminina)	Ass. Prof. dr Predrag Sazdanović
6	P	Urinary system (systema urinaria) Male and female genital organs (systema genitalia masculina et feminina)	Ass. Prof. dr Predrag Sazdanović dr Melanija Tepavčević
7	L	The nervous system (systema nervosum)	Prof. dr Ivana Živanović-Mačužić
7	P	The nervous system (systema nervosum)	Prof. dr Ivana Živanović-Mačužić dr Kristijan Jovanović
8	L	The endocrine system. (systema endocrinum). Sensory organs (organa sensoria)	Prof. dr Maja Vulović
8	P	The endocrine system. (systema endocrinum). Sensory organs (organa sensoria)	Prof. dr Maja Vulović dr Milos Stepović

LECTURES AND PRACTICAL CLASSES

недеља	тип	назив методске јединице	наставник
9	L	Epithelial tissue. Skin	Prof dr Zoran Milosavljević
9	P	Epithelial tissue. Skin	Prof. dr Irena Tanasković Assoc. Prof dr Jelena Milovanović associate dr Vesna Rosić
10	L	Connective tissue. Blood and hematopoiesis	Assoc. Prof Nemanja Jovičić
10	P	Connective tissue. Blood and hematopoiesis.	Assoc. Prof. Maja Sazdanović Asst. Prof. Marina Miletić Kovačević
11	L	Muscle and nervous tissue. Nervous system	Prof dr Zoran Milosavljević
11	P	Muscle and nervous tissue. Nervous system	Assoc. Prof dr Jelena Milovanović Prof dr Zoran Milosavljević
12	L	Digestive system. Liver, pancreas and gall bladder	Assoc. Prof Nemanja Jovičić
12	P	Digestive system. Liver, pancreas and gall bladder.	Assoc. Prof Nemanja Jovičić Asst. Prof. Marina Miletić Kovačević
13	L	Circulatory system. Immune system. Endocrine system.	Prof dr Zoran Milosavljević
13	P	Circulatory system. Immune system. Endocrine system.	Assoc. Prof. Maja Sazdanović Asst. Prof. Marina Miletić Kovačević associate dr Vesna Rosić
14	L	The urinary system. Male and female genital system	Assoc. Prof Nemanja Jovičić
14	P	The urinary system. Male and female genital system.	Prof dr Zoran Milosavljević Assoc. Prof. Maja Sazdanović
15	L	Respiratory system. Senses	Prof dr Zoran Milosavljević
15	P	Respiratory system. Senses	Assoc. Prof Nemanja Jovičić Asst. Prof. Marina Miletić Kovačević Acc. associate dr Vesna Rosić