

Faculty of Preventive Medicine

Special histology

Syllabus

Autumn semester

EDUCATIONAL PROGRAM
(SILLABUS) of Azerbaijan Medical
University
SPECIAL HISTOLOGY

**"CONFIRM" Head of the
Department of Histology,
Cytology and Embryology
Gasimov E.K.**

Signature _____
12.09.2021

FACULTY: 070101 Preventive Medicine
SUBJECT CODE: İPF- B06
SUBJECT TYPE: Mandatory
SEMESTER OF LEARNING THE SUBJECT:S3
SUBJECT CREDIT: 6 credits
FORM OF LEARNING THE SUBJECT: Full-time
LEARNING LANGUAGE: Azerbaijani, Russian, English
ОБУЧАЮЩИЕ ПРЕДМЕТУ Teaching staff of the department
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PREREQUISITES: No subject to be studied before studying the subject

CORREQUESITES: Teaching the subject "Human Anatomy" must be carried out in parallel with the teaching of this subject.

POST-REQUISITES: Students who have not completed a semester in cytology, embryology and histology should not be allowed to study pathological anatomy.

DESCRIPTION OF THE SUBJECT:

In the process of teaching this subject is given detailed information through the description of the structure of organs and systems of the organism at different stages of individual development (ontogenesis) with the help of modern methods (microscopic, autograph, electronics, microscopy, electron microscopy).

In addition, the fundamental foundations of histo- and morphogenesis are laid, the molecular mechanisms of the processes that ensure the joint activity of cells and tissues participating in the organization of each organ, the fundamental bases of reception, transmission and perception of irritation in various parts of the analyzers, the general principles of fluid flow in the body, Morpho- physiological foundations of the functioning of organs. - modern data on the participation of blood and lymphatic vessels in the organization of their functional units, hematopoiesis and immune response, various forms of exposure that play an important role in neuro-humoral metabolism, digestion and absorption of nutrients, morphological foundations of aerogematic, hematoencephalic, hemato-testicular and hematological - follicular systems (barriers).

In addition, the description of the important stages of the formation of organs and systems in the prenatal and postnatal periods, an explanation of possible changes in their structure and functions based on clinical examples, variations and abnormalities is taught on the basis of evidence.

THE TASK OF THE SUBJECT:

The main goal of the subject "Special histology" is to teach the morphological foundations of the general structural plans of human organs and systems, their histological and ultrastructural features, the stages of development of organs and systems in the prenatal and postnatal periods and the most common. variations and anomalies.

RESULTS OF STUDYING THE SUBJECT:

While teaching this subject, students should be able to recognize and describe histograms of cells and tissues involved in the organization of organs, as well as electrograms of their various parts, in order to detect pathological processes and changes in organs compared to the norm.

PLAN OF LECTURES

Week	№	Topics	hours
18.02-22.02	1	General morphofunctional characteristics of sensory organs. Conception about analyzers. Structural peculiarities of receptor cells involved in reception of different stimuli. Endocrine system Morphological bases of neuro – hormonal regulation..	2
04.03-08.03	2	Differentiation of parts of primitive gut tube (foregut, midgut and hindgut). Morpho –functional characteristics and general plan of structural organisation of tubular and glandular organs in digestive system. The role of primitive oral cavity and surrounding it structures (frontal and heart diverticuli, branchial apparatus) in development of face of the embryo. Abnormalities and variations taking place in lip, palate and facial regions.	2
18.03-22.03	3	Structural features, blood supply and innervation of organs (lips, cheeks, tongue, hard and soft palates, throat and pharinx), which involved in mastication and swallowing. Histophysiology of swallowing process. Main stages of tooth formation in pre- and postnatal periods. Molecular regulation of formation of teeth with different shapes. Development and mineralisation features of hard tissues of teeth (enamelum, dentinum and cementum). Mechanisms of deciduous teeth eruption and their replacement by permanent teeth.	2
01.04-05.04	4	Sources of development and structural features of soft elements of tooth (gingiva, alveolar periosteum, periodontal ligament and dental pulp) as well as their role in nourishment of hard elements of tooth. Parts of gingiva and morphological basis of its role as biological barrier between the oral cavity and structural elements located around dental root. Roles of gingiva and periodontal ligament in tooth and dental alveoli connections.	2
15.04-19.04	5	Cardiovascular system: development, general morpho-functional plan. Relations between hemodynamic condition and structure of vascular wall. Heart. Arteries. Microcirculation network. Capillaries. Venous network. Anastomoses. Neuro-humoral regulation of cardiovascular system functioning. Age changes. Regeneration features. Organs of hematopoiesis. Immunity, histological bases of immune defense reactions.	2
29.04-03.05	6	Integument: development, structural parts, functions. Skin. Skin appendixes: hairs, nails, sebaceous and sweat glands. Innervation, vascularization, age features. Respiratory system: development, structural parts, morpho-functional features. Respiratory portion. Air-blood barrier. Innervation, vascularization, age features.	2
13.05-17.05	7	Urogenital system: development, general morpho-functional features, hormonal regulation. Histophysiology of urine formation. Hemato – urinar, hemato – follicular and hemato – testicular barriers.	2

Totally: 14 hours

PROGRAM OF PRACTICAL LESSONS:

№	Topics	hours
1.	Spinal cord. Meninges	2
2.	Spinal ganglia. The structure of peripheral nerve trunk. Autonomic nervous system.	2
3.	Brain stem. Cerebellum.	2
4.	Cerebral hemispheres. Modul.	2
5.	Organ of vision. Olfactory organ.	2
6.	Organs of hearing and equilibrium. Taste organ.	2
7.	Hypothalamus. Hypophysis (pituitary gland). Pineal gland.	2
8.	Thyroid gland. Parathyroid gland.	2
9.	Adrenal glands.	2
10.	Arteries.	2
11.	Microcirculation.	2
12.	Veins. Lymphatic vessels.	2
13.	Heart.	2
14.	IV Quiz.	2
15.	Hemopoiesis. Bone marrow.	2
16.	Thymus.	2
17.	Lymph node. Spleen.	2
18.	Lips. Palates. Cheeks. Tongue.	2
19.	Teeth.	2
20.	Salivary glands. Lymphoepithelial ring. Palatine tonsils.	2
21.	Esophagus. Stomach.	2
22.	Small and large intestines. Appendix.	2
23.	Liver.	2
24.	Pancreas.	2
25.	Nasal cavity. Larynx. Trachea.	2
26.	Bronchi. Lungs.	2
27.	V Quiz.	2
28.	Skin.	2
29.	Skin appendages.	2
30.	Kidneys.	2
31.	Ureters. Urinary bladder. Urethra.	2
32.	Testes. Spermatogenesis.	2
33.	Epididymis. Seminiferous tubules. Prostate gland.	2
34.	Ovaries. Ovogenesis.	2
35.	Uterus. Uterine tubes. Vagina.	2
36.	Mammary gland.	2
37.	Placenta.	2
38.	VI Quiz.	2

Totally: 76 hours

EVALUATION:

It is possible to collect the necessary 100 points for obtaining a loan in this subject as follows:

50 points - before the exam

Including:

10 points - for attendance

10 points - for references

30 points-gained in the classroom seminars.

Quizes will be held twice a semester. If you do not participate in the colloquium, 0 (zero) points will be recorded in the journal.

50 points - will be collected on the exam

The exam will be conducted by test method. The test will consist of 50 questions. Each question is one point. For incorrectly answered questions, points are removed from correctly answered questions.

THE NOTE:

If the exam does not score at least 17 points, the points earned prior to the exam will not be awarded. The points earned during and before the exam are added up and the final total is estimated as follows:

A-“excellent”	-91-100
B-“very good”	-81-90
C-“good”	-71-80
D-“satisfactory”	-61-70
E-“acceptable”	-51-60
F-“unsatisfactory”	- less than 51

REFERENCES:

During the semester, 10 references are given. The performance of each is estimated with 1 points.

REFERENCES TOPICS AND DEADLINE:

No	Topics	Date
1	Organs of the nervous system.	2 week
2	Organs of senses, classification.	3 week
3	Endocrine system, classification. Interaction with the nervous system.	4 week
4	Organs of the cardiovascular system.	5 week
5	Organs of hematopoietic and immune defense. Antigen-dependent and antigen-independent hematopoiesis.	6-7 week

6	Skin. Derivatives of the skin. Respiratory system organs.	8 week
7	Organs of the oral cavity. Tubular organs, structures, functions of the digestive system. Glands of the digestive system.	9-10 week
8	Urinary system, development, structure. The mechanism of urine formation and hormonal regulation.	11 week
9	Male genitals, structure, hormonal regulation.	12-13 week
10	Organs of the female reproductive system, structure, function. sexual cycle. Breast glands, structure.	14 week

SILLABUS - WORKING EDUCATIONAL PROGRAM

The content of the bachelor's degree covers the planning of the educational process, the forms and methods of its implementation, the volume of the study load, the duration of educational stages (semesters), types of training (lectures, classes, laboratories, etc.), requirements for educational programs.

The planning and organization of the educational process (exemplary workers and individual) are implemented on the basis of work programs in the subjects. The form and structure of these documents are determined by the university.

Subject programs are developed by higher educational institutions in accordance with the requirements of higher education programs in specialties and are approved by the Ministry of Education of the Republic of Azerbaijan. Work programs (syllables) are developed on the basis of subject programs and are approved by higher educational institutions.

Working plan (syllabus) - a description of the subject, its purpose and objectives, a summary, duration and types of lessons, assignments for the student's independent work, their duration, consultation hours, information about the teacher, prepared on the basis of the corresponding curriculum of the subject; this is a document containing the teacher's requirements, assessment criteria, an intermediate grading schedule, a list of references.

LITERATURE AND MATERIALS:

1. Abdullayev M.S., Abiyev H.S. Histoloji nomenklatura: Ali məktəblər üçün dərs vəsaiti. Bakı: Az. Döv. Tibb İnst., 1972, 181 s.
2. Abdullayev M.S., Abiyev H.S. Ümumi histologiya : Ali məktəblər üçün dərslik. Bakı: Maarif, 1975, 323 s.
3. Qasimov E.K. Sitologiya: Ali məktəblər üçün dərslik. Bakı: "Time Print", 2013, 272 s.
4. E.K.Qasimov. Histologiya atlası. Bakı: Oskar, 2010, 510s.
5. Xüsusi histologiya. E.K. Qasimovun redaktəsi ilə. Bakı, 2015, 310s.
6. Алмазов И.В., Сутулов Л.С. Атлас по гистологии и эмбриологии. М.: Медицина, 1978, 543 с.
7. Гистология: (введение в патологию). Учебник для студентов / Под ред. Э.Г.Улумбекова, Ю.А.Челышева. М.: ГЭОТАР-МЕД, 1998, 960 с.

8. Гистология: (введение в патологию). Учебник для студентов / Под ред. Э.Г.Улумбекова, Ю.А.Челышева. М.: ГЭОТАР-МЕД, 2005, 672с.
9. Кузнецов С.Л., Мушкамбаров Н.Н. Гистология, цитология и эмбриология. Учебник для студентов медицинских вузов. М.: ООО "Медицинское информационное агенство", 2012, 600 с.
- 10.Хэм А., Кормак Д. Гистология (в пяти томах). Перевод с английского / Под ред. Ю.И.Афанасьева, Ю.С.Ченцова. М.: Мир, 1983, 1362 с.
- 11.Ю.И.Афанасьев, Н.А.Юрина. Гистология. М., 2006, 766 с.
- 12.Alberts B, Johnson A, Lewis J, Raff M, Roberts K, Walter P. Molecular Biology of the Cell. 5th ed. New York: Garland Publishing; 2008, 1601 p.
- 13.Gartner LP, Hiatt JL. Color textbook of histology. 4th international ed. Philadelphia: PA:, Elsevier, 2017, 657 p.
- 14.Gray`s anatomy. 38th ed. / Chairman of the editorial board Peter L. Williams. New York:Churchill Livingstone Inc., 1995, 2092 p.
- 15.Junqueira LC, Carneiro J. Basic histology. New York: McGraw Hill Companies, 2013, 515 p.
- 16.Kerr JB. Atlas of functional histology. London: Mosby, 1999, 402 p.
- 17.Ross MH, Pawlina W. Histology. A text and atlas with correlated cell and molecular biology. 7th ed. Baltimore: Lippincott Williams & Wilkins, 2016, 984 p.
- 18.Sadler TW. Langman's Medical Embryology. 13th edition. Philadelphia: Lippincott Williams &Wilkins, 2015, 407 p.
- 19.Terminologia Histologica. International terms for human Cytology and Histology. Philadelphia: Lippincott Williams & Wilkins, 2008, 207 p.
- 20.Wheater`s functional histology. 4th ed. / Edit. Young B and Heath JW. Edinburgh: Churchill Livingstone, 2000, 413 p.

CUORSEWORK

Coursework on this subject is not provided.

PRACTICE

Industrial practice on this subject is not provided.

PREPARED

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