

**Azerbaijan Medical University**  
**Department of Pathological Anatomy**

**SYLLABUS**

**PATHOLOGICAL ANATOMY-1**

**for students of the Dentistry Faculty**  
**Spring semester of the 2018-2019 Academic year**

**Faculty:** 070104 Dentistry  
**Faculty code:** IPF-B11  
**Subject type:** Required  
**Education term of subject:** IV  
**Subject credits:** 3 credits  
**Teaching method of subject:** On-campus teaching  
**Instruction languages of subject:** English  
**Instructors:** Teaching staff of the Department  
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## INTRODUCTION

### **The purpose of “Pathological anatomy-1” course:**

The research methods and examination objects of pathological anatomy, cell pathology, general pathological processes: degeneration, cell death, death and signs of death, hemocirculatory and lymphatic disorders, inflammation, immunopathological processes, compensatory-adaptive processes and tumors; as well as cysts of the jaw bones, tumor-like derivatives of the jaw bones, odontogenic and non-odontogenic tumors of the jaw bones, periodontomas, pretumoric conditions and tumors in the oral cavity and oral mucosa, pretumoric conditions and tumors of the salivary glands are studied in detail in the “Pathological anatomy-1” course.

### **Course description:**

Research areas of Pathological anatomy-1 also include modern advances in science and technology, including computer technology, as well as methods of examination of modern pathological anatomy (light microscopy, immunmorphology, histochemistry, immunohistochemistry, morphometric, dark field, phase-contrast, polarization, luminescent microscopy, using mathematical statistical analysis of the obtained results, etc.) structural changes that develop at different levels (organism, organ, tissue, cell, ultrastructural and molecular) during pathological processes in the patient's body, their etiology, pathogenesis and morphogenesis, Thanatogenetic developmental mechanisms, study of the form and nature of processes, dynamic relationships, clinical and morphological forms and stages, pathomorphosis.

During the teaching of the subject, students who teach in the educational bases of the department from time to time also participate in the autopsies and macroscopic examination of biopsy materials.

## **Requirements for students' knowledge and skills at the end of the study of the subject**

The student **should know:**

1. Information about the definition of Pathological anatomy and the methods used;
2. Structural changes in cells and tissues during various degenerative processes;
3. Types of cell death, morpho-functional features of apoptosis and necrosis;
4. Types of human death, relative and absolute signs confirming biological death, character morphological features of corpse signs appearing in human corpses after death;
5. Classification of hemocirculatory disorders, their structural basis and pathogenetic features;
6. Classification of inflammation, morphological features, morpho-functional features of specific inflammatory diseases;
7. Etiopathogenetic and morphological features of immunopathological processes and compensatory-adaptive reactions, morphological bases of wound healing mechanisms;
8. Classification of tumors, information on carcinogenesis and pathomorphological features of tumors of individual tissues.
9. Pathomorphological features of tumors of the jaw bones and organs of oral cavity;
10. Pathomorphological features of the tumors of salivary glands.

The student **should be able to:**

1. Methods of macroscopic and microscopic examination used in pathological anatomy;
2. Distinguish macro- and microscopic signs of pathomorphological changes in cells and tissues during parenchymatous, mesenchymal and mixed degenerations;
3. Morphological explanation of the different features of apoptosis and necrosis;
4. Morphological diagnosis of changes in organs and tissues during various disorders of blood and lymph circulation;

5. To determine the comparative characteristics of microscopic manifestations of acute and chronic inflammation;
6. Morphological differential diagnosis of benign and malignant tumors;
7. Differential diagnosis of cysts, tumor-like lesions, odontogenic and non-odontogenic tumors of jaw bones;
8. Differential diagnosis of tumor-like lesions and tumors of the oral cavity and oral mucosa;
9. Differential diagnosis of tumor-like lesions and tumors of the salivary glands.

The student **must own**:

1. Basic methods of working with a microscope;
2. To analyze morphological changes in cells, tissues and organs during general pathological processes.

**Thematic plan  
of lectures on Pathological anatomy-1**

№	Topic	Hours
1.	Content, aims and tasks of Pathological anatomy; objects and methods of investigation. Brief history of Pathological anatomy. Pathological-anatomical service and its role and importance in health care system. Cell injury (alteration): morphological signs. Degenerations. General information. Parenchymatous degenerations.	2
2.	Stromal-vascular (mesenchymal) degenerations. Mixed degenerations. Stromal-vascular (mesenchymal) dystrophies. Mixed dystrophies. Formation of stones. Dental plaque and tartar. Salivary stone disease (sialolithiasis).	2
3.	Cell death: necrosis and apoptosis. Clinical and morphological features. Human death. Classification. Types. Early and late signs of death. Disturbances of the blood and lymph circulation.	2
4.	Inflammation. General information. Classification principles. Exudative inflammations. Proliferative inflammations. Specific inflammations.	2
5.	Pathology of immune system. Hypersensitivity reactions. Autoimmune processes. Immunodeficiency syndromes. Compensatory-adaptive processes. Regenerations. Healing of bed after tooth extraction.	2
6.	Tumors. General information. Classification principles. Tumors of epithelial and mesenchymal tumors. Carcinoma. Sarcoma.	2
7.	Cysts of jaw bones. Tumor-like lesions of jaw bones: fibrous dysplasia, cherubism, eosinophilic granuloma. Odontogenic and non-odontogenic tumors of jaw bones. Parodontomas. Tumors and tumor-like lesions of oral mucosa and oral cavity organs. Tumors and tumor-like lesions of salivary glands.	2
<b>Total:</b>		<b>14</b>

**Thematic plan  
of practical classes on Pathological anatomy-1**

№	Topic	Hours
1.	Content, aims and tasks of pathological anatomy; objects and methods of investigation. Autopsy. Cell pathology.	2
2.	Common information about the degenerations. Parenchymatous (intracellular) degenerations.	2
3.	Stromal-vascular (extracellular, mesenchymal) degenerations. Mixed degenerations.	2
4.	Cell death (necrosis, apoptosis). Human death. Early and late signs of death.	2
5.	<b>I Colloquium.</b>	2
6.	Disturbances of blood and lymph circulation.	2
7.	General information about inflammation. Exudative inflammations. Proliferative inflammations. Specific inflammations.	2
8.	Immunopathological processes. Diseases of thymus. Hypersensitivity reactions. Autoimmunity. Immune deficiency syndromes.	2
9.	Compensatory-adaptive processes.	2
10.	<b>II Colloquium.</b>	2
11.	General information about the tumors. Tumors of the epithelial tissue. Epithelial tumors with organospecific localization (Lung cancer. Gastric cancer. Colorectal cancer).	2
12.	Soft tissue and bone tumors. Tumors of nervous system. Tumors of the melanin-forming tissue.	2
13.	Blood diseases (Anemias. Tumors of blood system).	2
14.	Odontogenic tumors. Cysts and tumor-like lesions of maxillofacial region. Tumors and tumor-like lesions of oral mucosa, oral cavity organs and salivary glands.	3
15.	<b>III Colloquium.</b>	2
<b>Total:</b>		<b>31</b>

## ASSESSMENT

The collection of 100 points required to obtain a credit on the Pathological anatomy-1 course is carried out as follows:

50 points – before the exam, including:

10 points – participation;

10 points – independent study;

30 points - colloquium.

For the missed hours, attendance points are deducted up to 3 points, depending on the number of hours missed. Students who score less than 7 on the course are not allowed to take the exam.

Independent study is used to develop students' ability to learn independently outside the classroom. During the semester, the student must prepare 3 independent works in the form of Ppt presentation or abstract. The list of independent works is prepared by the department in accordance with the course program and is given to each student in the first week of the semester. Acceptance of independent work is carried out during the semester and is usually completed in the 14th week. Independent work is evaluated with 3, 3, 4 points (10 points in total) accordingly.

A colloquium will be held 3 times during the semester in the form of an oral survey. Each colloquium is evaluated with a maximum of 10 points. If the student does not participate in the colloquium, 0 (zero) points will be recorded in the journal.

The final exam will be held in the "Virtual Test Center" of the university. If a minimum of 17 marks is not scored in the exam, the points earned before the exam will not be collected. The points obtained during and before the exam are summarized and the final amount is evaluated as follows:

In order to help students prepare for the exam, a schedule of pre-exam consultation hours of experienced professors and associate professors of the department will be compiled. The points collected during and before the exam are summed up and the final amount is evaluated as follows:

- A - "Excellent" - 91 - 100
- B - "Very good" - 81 - 90
- C - "Good" - 71 - 80
- D - "Satisfactory" - 61 - 70
- E - "Pass" - 51 - 60
- F - "Insufficient" - less than 51 points



## INDEPENDENT STUDY OF STUDENTS

### Topics of independent study on the course of Pathological anatomy-1

№	Topic
1.	Content, aims and tasks of pathological anatomy; objects and methods of investigation. Autopsy. Cell pathology. Common information about the degenerations. Parenchymatous, stromal-vascular (mesenchymal) and mixed degenerations.
2.	Cell death (necrosis, apoptosis). Human death. Early and late signs of death.
3.	Disturbances of blood and lymph circulation.
4.	General information about inflammation. Exudative inflammations. Proliferative inflammations. Specific inflammations.
5.	Diseases of thymus. Hypersensitivity reactions. Autoimmunity. Immune deficiency syndromes. Compensatory-adaptive processes.
6.	Epithelial tumors with organospecific localization (Lung cancer. Gastric cancer. Colorectal cancer).
7.	Mesenchymal tumors. Tumors of nervous system. Tumors of the melanin-forming tissue.
8.	Tumors of blood system. Anemias.
9.	Odontogenic tumors. Cysts and tumor-like lesions of maxillofacial region.
10.	Tumors and tumor-like lesions of oral mucosa, oral cavity organs and salivary glands.

### SYLLABUS - WORKING CURRICULUM

The content of basic higher medical education includes the planning of the educational process, forms and methods of its implementation, amount of study time, duration of teaching periods (semesters), types of teaching (lectures, practical classes, laboratory, etc.), volume of different courses, requirements for educational programs in specialties.

Planning and organization of the educational process is carried out on the basis of curricula (exemplary working and individual curricula) and working programs on courses. The form and structure of these documents are determined by the higher education institution.

Course programs are developed by higher education institutions in accordance with the requirements of higher education programs by specialties and duly approved by the Ministry of Education of the Republic of Azerbaijan. Syllabuses are developed on the basis of course programs and approved by higher education institutions.

Syllabus - a document prepared on the basis of the relevant course program and containing a description of the course taught, its purpose and objectives, summary, duration and types of lessons, assignments for independent study of students, their duration, consultation hours, teacher information, teacher requirements, assessment criteria, midterm examination schedule, list of used literature.

#### **BASIC LITERATURE:**

1. Kerimova I.I. Pathological Anatomy Lectures. Part I. Baku, “Tabib” publishing house, 2018, 319 pp.
2. Kerimova I.I. Pathological Anatomy Lectures. Part II. Baku, “Tabib” publishing house, 2020, 323 pp.
3. Серов В.В., Ярыгин Н.Е., Пауков В.С. Патологическая анатомия. Атлас. Москва, 1986. 368 с.
4. Texts of lectures on the course “Pathological anatomy-1”.

#### **ADDITIONAL LITERATURE:**

5. Kumar V, Abbas A, Aster J, Perkins J. Robbins basic pathology. 10th edition. Elsevier, 2018, 910 p.
6. Kumar V, Abbas A, Aster J, Perkins J. Robbins and Cotran pathologic basis of diseases. Elsevier Saunders, 2015, 1412 pp.