

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

**SYLLABUS**

**PATHOLOGICAL ANATOMY-1**

**for students of the General Medicine Faculty**  
**Fall semester of the 2020-2021 Academic year**

**Faculty:** 070101 General Medicine  
**Faculty code:** IPF-B11  
**Subject type:** Required  
**Education term of subject:** VI  
**Subject credits:** 4 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:**

Study of cellular pathology and general pathological processes, such as hemocirculatory and lymphocirculatory disorders and inflammation, which will give a comprehensive idea of the morphological basis of a particular disease; morphological basis and mechanisms of immunopathological processes and the corresponding adequate reactions of the body to the effect of pathogenic factors and changes in environmental conditions - general biological processes, such as compensation and adaptation; pathomorphological features of benign and malignant neoplasms in the human body.

### **Course description:**

Pathological anatomy-1 studies the general patterns of development of diseases, pathological processes and cell pathology, pathomorphological changes that are common to all diseases and pathological processes to one degree or another, in short, the general pathologies of human.

The courses of "Pathological anatomy-1" and "Pathological anatomy-2" are closely connected and form an inseparable unity. Thus, the morphological basis of any specific disease, symptom and syndrome is taken from the general pathological anatomy. On the other hand, the basis and onset of each clinical symptom is a morphological change or changes.

The teaching of the course "Pathological Anatomy-1" is based on the latest achievements of all other medical sciences, as well as biology, genetics, immunology, chemistry and physics, modern morphological research methods (cytochemistry, histochemistry, immunohistochemistry, immunomorphology, electron microscopy, molecular pathology).

The teaching program "Pathological anatomy-1" is taught to students in the form of classical and virtual lectures and practical classes. Lectures or video lectures on the topics covered in the program are held and practical classes are held. Some topics that are not covered in the lessons are mastered by students independently from textbooks.

## **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 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. Etio-pathogenetic and morphological features of immunopathological processes;
8. Morphology and mechanisms of adaptation and compensation processes of the organism in response to the influence of pathogenic factors and changing environmental conditions;
9. Classification of tumors, information on carcinogenesis and pathomorphological features of tumors of individual tissues.

The student **should be able to:**

1. To apply the main methods of pathological-anatomical autopsy;
2. To determine the nature of the diagnosis and pathological process by means of macropreparations during the autopsy;
3. To identify the main general pathological processes with histological preparations by light microscopy;
4. To diagnose pathological processes based on the description of macro- and microscopic changes in the organs and tissues of the body.

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.

## Lectures on Pathological anatomy-1

### Thematic plan:

№	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.	2
3.	Cell death: necrosis and apoptosis. Clinical and morphological features. Human death. Classification. Types. Early and late signs of death.	2
4.	Disturbances of the blood and lymph circulation.	2
5.	Inflammation. General information. Classification principles. Exudative inflammations. Proliferative inflammations. Specific inflammations.	2
6.	Pathology of immune system. Hypersensitivity reactions. Autoimmune processes. Immunodeficiency syndromes. Compensatory-adaptive processes.	2
7.	Tumors. General information. Classification principles. Features of benign and malignant tumors. Blood system diseases.	2
<b>Total:</b>		<b>14</b>

## Practical classes on Pathological anatomy-1

### Thematic plan:

№	Topic	Hours
1.	Content, aims and tasks of pathological anatomy; objects and methods of investigation. Autopsy. Cell pathology. Common information about the degenerations. Parenchymatous degenerations.	4
2.	Stromal-vascular (mesenchymal) degenerations. Mixed degenerations.	4
3.	Cell death (necrosis, apoptosis). Human death. Early and late signs of death.	4
4.	<b>Colloquium 1.</b>	4
	Disturbances of blood and lymph circulation.	
5.	General information about inflammation. Exudative inflammations. Proliferative inflammations. Specific inflammations.	4
6.	Immunopathological processes. Diseases of thymus. Hypersensitivity reactions. Autoimmunity. Immune deficiency syndromes.	4
7.	Compensatory-adaptive processes.	4
8.	<b>Colloquium 2 (Midterm examination).</b>	4
	General information about the tumors.	
9.	Tumors of the epithelial tissue. Epithelial tumors with organospecific localization (Lung cancer. Gastric cancer. Colorectal cancer).	4
10.	Mesenchymal tumors. Tumors of nervous system. Tumors of the melanin-forming tissue.	4
11.	Blood diseases (Anemias. Tumors of blood system).	4
12.	<b>Colloquium 3.</b>	2
<b>TOTAL:</b>		<b>46</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;

20 points – midterm examination;

10 points – colloquium;

50 points – final examination.

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 2 independent works in the form of Ppt presentation or abstract and upload them to the University's Electronic Learning System (ETS). 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. Each independent work is evaluated with a maximum of 5 points (10 points in total).

It is planned to hold a colloquium twice a semester. If the student does not participate in the colloquium, 0 (zero) points will be recorded in the journal.

The midterm and final exams will be held in the "Examination 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:

### 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 (intracellular) degenerations.
2.	Stromal-vascular (mesenchymal) degenerations. Mixed degenerations.
3.	Cell death (necrosis, apoptosis). Human death. Early and late signs of death.
4.	Disturbances of blood and lymph circulation.
5.	General information about inflammation. Exudative inflammations. Proliferative inflammations. Specific inflammations.
6.	Immunopathological processes. Diseases of thymus. Hypersensitivity reactions. Autoimmunity. Immune deficiency syndromes. Compensatory-adaptive processes.
7.	General information about the tumors.
8.	Epithelial tumors with organospecific localization (Lung cancer. Gastric cancer. Colorectal cancer).
9.	Mesenchymal tumors. Tumors of nervous system. Tumors of the melanin-forming tissue.
10.	Tumors of blood system. Anemias.

## 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 on course syllabuses. 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”
5. Video lectures on the course “Pathological anatomy-1”

### **ADDITIONAL LITERATURE:**

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