UNIVERSITATEA DE MEDICINĂ ȘI FARMACIE “CAROL DAVILA”

Comisia pentru asigurarea calității

FIŞA DISCIPLINEI

1. Date despre program

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<tbody>
<tr>
<td>1.1.</td>
<td>UNIVERSITATEA DE MEDICINĂ ȘI FARMACIE “CAROL DAVILA”</td>
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<tr>
<td>1.2.</td>
<td>FACULTATEA MEDICINĂ GENERALĂ/ DEPARTAMENTUL 2 PRECLINIC</td>
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<tr>
<td>1.3.</td>
<td>DISCIPLINA: ANATOMIE PATOLOGICĂ</td>
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<tr>
<td>1.4.</td>
<td>DOMENIUL DE STUDII: ANATOMIE PATOLOGICĂ</td>
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<td>1.5.</td>
<td>CICLUL DE STUDII: LICENȚĂ</td>
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<td>1.6.</td>
<td>PROGRAMUL DE STUDII: ZI</td>
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2. Date despre disciplină

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<tbody>
<tr>
<td>2.1.</td>
<td>Denumirea disciplinei: ANATOMIE PATOLOGICĂ</td>
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<td>2.2.</td>
<td>Titularul activităților de curs:</td>
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<td>2.3.</td>
<td>Titularul activităților de semiar:</td>
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<tr>
<td>2.4.</td>
<td>Anul de studiu</td>
<td>III</td>
<td>2.5. Semestrul</td>
<td>V-VI</td>
<td>2.6. Tipul de evaluare</td>
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3. Timpul total estimate (ore/ semestru de activitate didactică)

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<tbody>
<tr>
<td>3.1. Nr. ore pe săptămână</td>
<td>4</td>
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<td>din care: 3.2 curs</td>
<td>2</td>
<td>3.3. seminar/ laborator</td>
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<tr>
<td>3.4. Total ore din planul de învățământ</td>
<td>112</td>
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<td>din care: 3.5 curs</td>
<td>56</td>
<td>3.6. seminar/ laborator</td>
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<tr>
<td>Distribuția fondului de timp</td>
<td>28</td>
<td>sapt</td>
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</tbody>
</table>

Studiul după manual, suport de curs, bibliografie și note

Documentare suplimentară în bibliotecă, pe platformele electronice de specialitate și pe teren

Pregătire seminarii/laboratoare, teme, referate, portofoliu și eseuri

Tutoriat

1
Examinări

Alte activități

3.7. Total ore de studiu individual

3.8. Total ore pe semestrul 56 56

3.9. Numărul de credite sem. V = 4; sem VI = 4 8

4. Precondiții (acolo unde este cazul)

4.1. de curriculum Essential knowledge of anatomy and physiology of human body; Basic knowledge in the field of histology and cellular biology

4.2. de competențe Usage of conventional optical microscopy

5. Condiții (acolo unde este cazul)

5.1. de desfășurare a cursului Multimedia projector

5.2. de desfășurare a seminarului/ laboratorului “Victor Babeș” National Institute of Research and Development and the hospital where the teacher performs his clinical activity

6. Competențe specifice acumulate

6.1. Competențe profesionale (exprimate prin cunoștințe și abilități) • Description of the concepts, theories and basic knowledge about the development of the disease, about signs and symptoms specific to each illness, useful for the coordination of the clinical and pathological diagnosis

• to be able to interpret and analyse the risk factors for the ability to take the most adequate actions in prevention of diseases

• knowledge, understanding and utilization of the specific language

• explanation and interpretation

• problems solving, application and transfer

• constructive and critical contemplation

• creativity and innovation

• adequate selection, connection and utilization of knowledge, abilities and other acquisitions (values and attitudes)

6.2. Competențe transversale (de rol, de • to identify the purposes, the available
| dezvoltare profesională, personale | resources conditions to complete the action; to identify the levels of work, the available time, the assigned deadlines and risks in different pathologies
| | • to identify the roles and duties in a multidisciplinary teamwork, to apply communication techniques and efficient work in a team
| | • to adequately use sources of information, the communication resources and assisted professional forming (web portals, speciality-related software application, data base, online courses etc.)
| | • autonomy and responsibility
| | • social interaction
| | • professional and personal development |

7. Obiectivele disciplinei (reieşind din grila competenţelor specific acumulate)

| 7.1. Obiectivul general | Pathology is the science (*logos*) that studies the diseases (*pathos*) in the view of structural and functional consequences of the aggression of some factors against cells, tissues and organs (lesions). Traditional pathology is divided into general pathology (basic reactions of the cells and tissues to abnormal stimuli) and systemic pathology (the reaction of the organs and specialized tissues to more or less specified stimuli). Pathology includes the following features of diseases: etiology (the cause), pathogenesis (the mechanism of development of the lesions), structural changes that can be visible with the naked-eye (macroscopy) and with an optical microscope (microscopy), physiopathology (functional consequences of the morphological changes) in the view of clinical aspects (symptoms/ subjective complaints and signs/ objective complaints) and the prognosis of the disease. Education about the medical ethical laws in pathology.
The founder of the pathology is Rudolf Virchow who was the first in the XIX\textsuperscript{th} century to claim that in a lesion the changes begin from the molecules and/or the cellular structures. |

| 7.2. Obiective specifice | to establish a good and effective communication relationship between doctor and patient in pathology; development of the doctor-patient relationship, colleagues-doctor. |
8. Conținuturi

<table>
<thead>
<tr>
<th>Curs</th>
<th>Metode de predare</th>
<th>Observații</th>
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</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>The Assistant Lecturer is using multimedia presentations, lectures, and discussions of the topics; also, besides the theoretic lectures, the Assistant Lecturers are explaining the practical procedures regarding the macroscopic and microscopic examination of the specimens featured in the lecture.</td>
<td>Courses are held in the lecture room</td>
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<tr>
<td>2. Cellular pathology</td>
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<tr>
<td>- Reversible cellular injuries (hydropic degeneration)</td>
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<td>- Irreversible cellular injuries (necrosis, apoptosis)</td>
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<td>3. Cellular pathology</td>
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<tr>
<td>- Cellular adaptation (atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia, anaplasia)</td>
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<td>- Intra-cellular collection</td>
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<td>4. Circulatory disturbances</td>
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<tr>
<td>- Stasis</td>
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<td>- Vascular obstruction</td>
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<td>- Ischaemia</td>
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<td>5. Circulatory disturbances</td>
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<tr>
<td>- Haemorrhage</td>
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<td>- Shock, edema</td>
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<td>- Lymphatic pathology</td>
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<td>6. Inflammation, infectious diseases, regeneration and reparation</td>
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<tr>
<td>- General characteristics of the inflammation</td>
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<td>- Chemical mediators of the inflammation</td>
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<tr>
<td>7. Inflammation, infectious diseases, regeneration and reparation</td>
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<tr>
<td>- Classification of the inflammations</td>
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<tr>
<td>- Regeneration, reparation</td>
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<td>8. Genetic and development diseases</td>
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<tr>
<td>- Malformations</td>
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<td>- Chromosomes anomalies</td>
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<td>9. Genetic and development diseases</td>
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<tr>
<td>- Genes anomalies</td>
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<td>- Polygenic disorders</td>
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<td>10. Immunopathology</td>
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<tr>
<td>- Characteristic of the cells of immune system</td>
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<td>- Autoimmune diseases</td>
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<td>11. Immunopathology</td>
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<tr>
<td>- Immunodeficiencies</td>
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<tr>
<td>- Amyloidosis</td>
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12. Neoplasia
   - General characteristics. Specific terms.
   - Diagnosis of the neoplasia

13. Neoplasia
   - Benign tumors
   - Malignant tumors

14. Metabolic diseases and data on environment
    - Pollutants with direct, indirect and delayed effect
    - Metabolic diseases

VIth semester (IIIrd year) – Systemic pathology

1. Cardiovascular system
   - Cardiac pathology
   - Pathology of the arteries, veins and lymph vessels

2. Cardiovascular system
   - Benign and malignant tumors of the vessels

3. Respiratory system
   - Pulmonary pathology
   - Pleural lesions

4. Respiratory system
   - Pathology of mediastinum
   - Cytodiagnosis

5. Digestive system, adnexae and peritoneum
   - Pathology of the head and neck
     (congenital abnormalities, inflammations, tumors)
   - Pathology of the esophagus and stomach
     (malformations, esophagitis, varices, gastritis, ulcer, tumors)

6. Digestive system, adnexae and peritoneum
   - Pathology of small intestine, of colon, anal canal and appendix (congenital abnormalities, malabsorption, inflammatory bowel diseases, diverticuli,
- Pathology of the liver and intrahepatic bile ducts (malformations, liver failure, hepatitis, cirrhosis, tumors)
- Pathology of gallbladder and extrahepatic bile ducts (malformations, gallstones, cholecystitis, abnormalities)

7. Digestive system, adnexae and peritoneum
- Pathology of the pancreas (malformations, inflammatory diseases, tumors)
- Pathology of the peritoneum (effusions, inflammations, tumors)
- Cytodiagnosis

8. Pathology of kidney, urinary tract and male genital system
- Malformations of the kidneys and urinary tract, nephropathies
- Lesions of the urinary tract

9. Pathology of kidney, urinary tract and male genital system
- Malformations of the male genital system; orchiepididymitis, prostatitis, tumors
- Cytodiagnosis

10. Pathology of female genital system and mammary gland
- Infectious diseases
- Malformations of the genital tract, cervicitis, dysplasia, endometritis, tumors
- Pathology of the pregnancy (abortion, ectopic pregnancy, hydatidiform mole, tumors)

11. Pathology of female genital system and mammary gland
- Pathology of the mammary gland (abnormalities, inflammations, neoplasia)
- Cytodiagnosis

12. Pathology of hematopoietic tissue and lymph tissue
- Pathology of hematopoiesis and leukopoiesis (morphology of anemias,
leukemias, myelopathies)
- Pathology of the lymph system
  (degenerative and inflammatory
  lymphadenopathies, lymphomas)
- Pathology of spleen (hypofunction, lesions)

13. Pathology of the endocrine glands
- Pathology of the hypothalamus,
hypophysis, thyroid and parathyroids

14. Pathology of the central nervous system, musculoskeletal system and skin
- Abnormalities, lesions, infections,
  neoplasms of the central nervous system
- Pathology of the bones and articulations
  (lesions, tumors)
- Pathology of the skin (lesions,
  infections, tumors)

Practical activities
Vth semester

1. Circulatory disturbances
Examination of macroscopic and microscopic
specimens representative of:
  - Renal congestion
  - Pulmonary congestion

2. Circulatory disturbances
Examination of macroscopic and microscopic
specimens representative of:
  - Liver congestion
  - Thrombus
  - Renal infarction

3. Circulatory disturbances
Examination of macroscopic and microscopic
specimens representative of:
  - Myocardial infarction
  - Pulmonary infarction

4. Dystrophies
Examination of macroscopic and microscopic
specimens representative of:
  - Granular-vacuolar dystrophy
  - Hyalin dystrophy

5. Dystrophies
Examination of macroscopic and microscopic
specimens representative of:
- Amyloidosis
- Bile stasis in liver
- Liver steatosis

6. Dystrophies
Examination of macroscopic and microscopic specimens representative of:
- Gaucher disease
- Niemann-Pick disease

7. Non-specific inflammations
Examination of macroscopic and microscopic specimens representative of:
- Purulent meningitis
- Acute phlegmonous appendicitis
- Liver abscesses

8. Non-specific inflammations
Examination of macroscopic and microscopic specimens representative of:
- Epidemic parotiditis
- Ulcero-necrotic enteritis
- Fibrinous pleurisy
- Granular tissue

9. Specific inflammations
Examination of macroscopic and microscopic specimens representative of:
- Reumatic myocarditis
- Ganglionar tuberculosis
- Pulmonary tuberculosis

10. Specific inflammations
Examination of macroscopic and microscopic specimens representative of:
- Syphilitic aortitis
- CMV infection
- Mycotic pyelonephritis
- Actinomycosis

11. Benign tumors
Examination of macroscopic and microscopic specimens representative of:
- Papilloma
- Polyps
- Adenofibroma of breast

12. Benign tumors
Examination of macroscopic and microscopic specimens representative of:
- Hemangioma
- Tumor of parotid gland
- Ovarian teratoma
- Uterine leiomyoma

13. Malignant tumors
Examination of macroscopic and microscopic specimens representative of:
- Basocellular carcinoma
- Spinocellular carcinoma
- Breast carcinoma

14. Malignant tumors
Examination of macroscopic and microscopic specimens representative of:
- Adenocarcinoma of the colon
- Lymph node metastasis of adenocarcinoma
- Sarcoma
- Osteochondrosarcoma

VIth semester

1. Pathology of the cardiovascular system
Examination of macroscopic and microscopic specimens representative of:
- Endocarditis of heart valves
- Rheumatic myocarditis
- Fiedler myocarditis

2. Pathology of the cardiovascular system
Examination of macroscopic and microscopic specimens representative of:
- Myocardial infarction
- Fibrinous pericarditis
- Atheroma
- Syphilitic aortitis

3. Pathology of respiratory system
Examination of macroscopic and microscopic specimens representative of:
- Lobar pneumonia
- Bronchopneumonia
- Interstitial pneumonia
- Emphysema

4. Pathology of respiratory system
Examination of macroscopic and microscopic specimens representative of:
- Pulmonary tuberculosis
- Silicosis
- Pulmonary carcinoma

5. Pathology of digestive system
Examination of macroscopic and microscopic specimens representative of:
- Gastric ulcer
- Mycotic gastritis
- Ulcero-necrotic enteritis
- “Signet ring” gastric carcinoma
- Crohn’s disease
- Acute appendicitis
- Adenocarcinoma of the colon

6. Pathology of digestive system
Examination of macroscopic and microscopic specimens representative of:
- Hepatitis
- Liver cirrhosis
- Liver hemochromatosis
- Malignant hepatoma
- Cholecystitis
- Cystoatonecrosis of the pancreas
- Cystic fibrosis of the pancreas

7. Pathology of the urinary system
Examination of macroscopic and microscopic specimens representative of:
- Proliferative glomerulonephritis
- Amyloid glomerulonephritis
- Pyelonephritis

8. Pathology of the urinary system
Examination of macroscopic and microscopic specimens representative of:
- Renal tuberculosis
- Renal sclerosis
- Grawitz tumor

9. Pathology of female genital system
Examination of macroscopic and microscopic specimens representative of:
- Simple hyperplasia of the endometrium without atypia
- Adenomyosis
- Fallopian pregnancy

10. Pathology of female genital system
Examination of macroscopic and microscopic

During the practical activities the Assistant Lecturers are using multimedia methods, and discuss the methods of filling out the Pathology documents. They will also develop reports and held power point presentations about the most recent topics in national and international medical problems, discuss about necropsy techniques, and prelevation of the tissues for microscopic diagnosis. This activities are held once every 2 weeks.

Microscopical meetings are starting with powerpoint presentations about the specific topics. Afterwards, the students will examine microscopic seminars in classic or special staining. Microscopic slides will be
specimens representative of:
- Hydatidiform mole
- Cervical carcinoma
- Papillary cystadenoma of the ovary
- Reclus’ disease

11. Pathology of male genital system
Examination of macroscopic and microscopic specimens representative of:
- Adenoma of the prostate
- Testicular seminoma

12. Pathology of lymph system
Examination of macroscopic and microscopic specimens representative of:
- MALT lymphoma
- Hodgkin lymphoma
- non-Hodgkin lymphoma
- Chronic lymphocytic leukemia

13. Pathology of thyroid
Examination of macroscopic and microscopic specimens representative of:
- Cystic colloid goiter
- Graves disease
- Hashimoto thyroiditis

14. Pathology of nervous system
Examination of macroscopic and microscopic specimens representative of:
- Poliomyelitis
- Viral encephalitis
- Neurinoma

Acute meningitis

examined by the student and the Assistant Lecturer at optic microscopes. For the best knowledge, teachers are using the pathology reports. They are also establishing correlations between non-tumoral and tumoral histopathological features with immunohistochemistry and molecular biology tests, which are useful for positive and differential diagnosis.

Practical lessons are held in special equipped rooms. Each microscopy lesson must be followed by microscopy lessons held in the laboratories of the hospitals or in the practical lessons – rooms from the “Victor Babeș” Institute.

Bibliography:


2. Rubin’s Pathology Clinicopathological Foundations of Medicine, editia a VII-a,David S Stayer MD Phd,Emanuel Rubin MD, Editura:Lippincott Williams and Wilkins,2014 ISBN 9781451183900


9. Coroborarea conținuturilor disciplinei cu așteptările reprezentanților comunității epistemice, asociațiilor profesionale și angajatorii reprezentativi din domeniul aferent programului

Medical training of the student of the 3rd year in Pathological Anatomy Discipline it focuses by: correct diagnosis, efficient communications, the best knowledge of the future doctor for an adequate communications with the the future employer. For this purpose, the future doctor should be able the understand the legislation issues.

10. Evaluarea

<table>
<thead>
<tr>
<th>Tip de activitate</th>
<th>10.1. Criterii de evaluare</th>
<th>10.2. Metode de evaluare</th>
<th>10.3. Pondere din nota finală</th>
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<tbody>
<tr>
<td>10.4. Curs</td>
<td>examination is made in accordance to the topics studied during the year. The student must obtain minimum 5 mark on each task</td>
<td>The type of evaluation of the student using written test (single choice test with 30 questions)</td>
<td>50%</td>
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<tr>
<td>10.5. Seminar/ laborator</td>
<td>examination is made in accordance to the topics studied during the year. The student must obtain minimum 5 mark on each task</td>
<td>Evaluation in the practical exam consists of examinations of 2 slides: Vth semester – one slide from general pathology and one slide from pathology of the tumors picked up by each student. Vth semester – 2 slides from general pathology and</td>
<td>25% - periodic evaluation 25% - practical exam</td>
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Standard minim de performanță

Minimum mark required for passing the exam is 5. Oral exam cumulated with the practical exam represents each a rejection exam.

At the end of the year study of pathology the students are able to recognize and to describe macroscopical and microscopical lesions from the general pathology and special pathology studied throughout the year, also the congenital malformations, circulatory disturbances, tumoral lesions, inflammations, vascular lesions etc.