FACULTY OF MEDICINE

STUDY PROGRAM 0912.1 MEDICINE

DEPARTMENT OF MORPHOPATHOLOGY

APPROVED
at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum
faculty _____
Minutes No.___ of _____

Chairman _____
(academic degree, scientific title)
Name, surname _____
(signature)

APPROVED
at the Council meeting of the Faculty
_____
Minutes No.___ of _____

Dean of Faculty _____
(academic degree, scientific title)
Name, surname_____
(signature)

APPROVED
approved at the meeting of the chair_____
Minutes No.___ of _____
Head of chair PhD, associate professor
(academic degree, scientific title)
Eugen Melnic
(signature)

SYLLABUS

DISCIPLINE **CLINICAL MORPHOPATHOLOGY**

Integrated studies

Type of course: **optional discipline**

Chisinau, 2018

I. INTRODUCTION

- **General presentation of the discipline: place and role of the discipline in the formation of the specific competences of the professional / specialty training program**

The core curriculum is designed to provide basic and current knowledge and skills in a broad spectrum of anatomic and clinical pathology disciplines. The curriculum consists of didactic lectures organized with input from the students to cover all areas of core medical knowledge in anatomic and clinical pathology, and required and elective clinical rotations. Students performance on boards and in service examinations are considered in designing and updating the curriculum.

There is sufficient flexibility in elective programs to also offer an opportunity to develop greater clinical expertise in selective areas of pathology, and to actively explore specific research interests. A major goal of the program is to create a positive environment for learning so that there is both adequate opportunity for in-depth experience in all aspects of pathology and at the same time opportunity to consolidate this experience through reading and study.

Mission of the curriculum (aim) in professional training

Our curriculum is designed to provide training in all major areas of anatomic and/or clinical pathology while remaining flexible enough to accommodate diverse career goals in private practice and academic or other settings. Anatomic pathology and clinical pathology rotations are integrated throughout the curriculum to allow continuous exposure to both components.

The subject of Pathology is taught in the 11rd to 12th semester. At the end of the each Semester, the students appear for Examination held at the University level. The following are the broad goals:

- To offer training in all fields of anatomic and clinical pathology that will lead to eligibility for the qualifying examination.
- To offer flexibility in training that will suit the need of the trainees for careers as future leaders in pathology practice, education and research.
- To provide an extensive curriculum that covers all fields of anatomic and clinical pathology with clear goals and objectives that will help guide the trainees through an intense training process that will focus on making students competent in Patient Care, Medical Knowledge, Communication Skills, Professionalism, Practice Based Learning, and System Based Practice.
- To provide an educational experience through didactic teaching, apprenticeship experiences, and self-study, through a variety of required and elective rotations, conferences, seminars.
- To provide adequate mentoring and role models for all trainees and for all career options in pathology.
- The Department will strive to provide a working environment that emphasizes safety, reduction of stress, collegiality and professionalism.

- Language (s) of the course: English;

- Beneficiaries: students of the VI year, faculty of medicine

II. MANAGEMENT OF THE DISCIPLINE

Code of discipline	**F.02.O.002**

Name of the discipline		**Clinical morphopathology**	
Person(s) in charge of the discipline		**Eugen Melnic**	
Year	**VI**	Semester/Semesters	**XI, XII**
Total number of hours, including:			**30**
Lectures	**20**	Practical/laboratory hours	**-**
Seminars		Self-training	**10**
Clinical internship			
Form of assessment	**C**	Number of credits	**1**

III. TRAINING AIMS WITHIN THE DISCIPLINE

At the end of the discipline the student will be able to:

The Department of Pathology seeks to train exceptional pathologists who will become leaders in the field of pathology. One of our highest objectives is to foster the careers of young trainees and to give them the training and opportunities needed to become future leaders in pathology research, education and practice.

- Have an advanced understanding of all branches of anatomical pathology and the role of anatomical pathology in diagnosis and patient management.
- Offer expert opinion to clinicians as to the choice of biopsy material most likely to yield relevant information for the suspected disease process being investigated.
- Be able to liaise with clinicians, explain the limitations of biopsies and cytological preparations in the interpretation of results and formulate clinicopathological correlations.
- Have sufficient knowledge and personal communication skills to regularly participate in clinico-pathological review meetings.

- <u>At the level of knowledge and understanding</u>
  - ✓ Interpret and describe gross surgical specimens
  - ✓ Interpret and describe gross non-surgical specimens
  - ✓ Have sufficient clinical understanding to examine, interpret and provide clinicopathological correlation for sections and specimens prepared for microscopy, including those prepared by FNA, frozen section, imprints, routine histochemistry, immunohistochemistry and electron microscopy.
  - ✓ Access information to assist in the interpretation of specimens.
- <u>At the level of application</u>

✓ Develop the ability to solve complex clinical problems by applying sound knowledge of basic principles without needing to rely on ‘pattern matching’.

✓ Possess sufficient manual dexterity to safely and accurately perform specimen dissection, without damage to tissues.

- ✓ Be able to set up a microscope with ergonomic safety and to operate it effectively. Be able to recognize the microscopic features of tissue structure in normality and disease, as appropriate to the level of training reached. Able to meet internationally established reporting standards.
- ✓ Know when to resort to special techniques. Be able to recognize histological features of histochemical and immunohistochemical stains in normal and diseased tissues.

- At the level of integration
  - ✓ Understand the importance of integration of clinical and pathological findings for accurate diagnosis.
  - ✓ Understand the importance of accuracy and the requirement for attention to detail.
  - ✓ Understand the importance of ensuring that the request form and specimen identification are accurate and the requirement to identify and resolve any errors of discordance.
  - ✓ Understand the requirement for attention to detail during surgical reporting and for the need to correlate with the clinical scenario.
  - ✓ Demonstrate an understanding of the importance of surgical pathology to clinicians and patients e.g. timeliness and accuracy of reporting.
  - ✓ Understand cost benefit issues when considering the use of special techniques. Be able to order special techniques appropriately in the preparation of cases according to the level of training attained.
  - ✓ Appreciation of the available technologies.

IV. PROVISIONAL TERMS AND CONDITIONS

The student should have skills and habits of continuous self-evaluation and improvement that will ultimately enable effective life-long earning. This includes developing an ability to critically evaluate and assimilate literature data, and incorporate this into practice to facilitate evidence-based care; effectively use information technology for managing data; apply research and statistical methods to laboratory data; analyze his/her practice using quality improvement methods; effectively internalize evaluation and criticism to improve practice; realistically appraise one's strengths and weaknesses; and appropriately identify learning opportunities to remediate gaps in knowledge and skills.

The student should have interpersonal and communication skills, both formal and informal, written and oral, that result in the effective exchange of information and expertise with other health care providers, patients, patients' families, and the public. The student should behave and interact with others in ways that promote a team approach to patient care and create a pleasant and productive working environment. Students will learn to be willing, available, and informed clinical consultants.

V. THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/ laboratory hours/seminars and self-training

No. d/o	THEME	Number of hours		
		Lectures	Practical hours	Self-training
1.	Introduction in clinical pathology. The structure, goals and objectives of pathology services. Methods of investigation in histopathology and cytopathology: biopsy, smears, surgical pathology. Methods of stain: routine (H-E), histochemistry, immunohistochemistry, and molecular markers.	2	3	2
2.	General aspects and importance of cytopathological service. Papanicolau method, screening program and its role in pretumoral process diagnosis. Bethesda classification.	2	3	2
3.	Cardiovascular system pathology. Methods of investigation. Modern classification of myocardial infarction and cardiomyopathy. Heart tumors.	2	3	2
4.	Respiratory system. The role of biopsy in lung pathology diagnosis. Bronchial washings cytology. Morphological features of pneumonias, bacterioscopic examination. Interstitial pneumonias. Acute respiratory distress syndrome. Chronic obstructive pulmonary diseases. Pulmonary hypertension. Lung carcinoma. The diagnosis structure in respiratory system pathology.	2	3	2
5.	Gynecopathology. The role of screening program in cervical cancer prophylaxis, early detection and follow up. Cervical cancer classification, morphology and benign mimicking –as important factor in over diagnosis and misdiagnosis of cancer. Tumors of uterus and ovaries: morphology, staging and grading tumors according to latest classification and their importance in patients follow up.	2	3	2
6.	Gastrointestinal system surgical pathology. Importance of endoscopic investigation and their correct orientation in early diagnosis of tumors. Diseases of liver and pancreas. The diagnosis structure in Gastrointestinal and pancreato-hepatic pathology.	2	3	2
7.	Central nervous system pathology. Cerebro-vascular pathology. Brain tumors classification. Morphopathology, diagnosis and follow-up in of patients with cerebral tumors. Childhood brain tumors.	2	3	2
8.	Renal and mail genital system pathology morphology. Clinical manifestations of renal diseases: congenital anomalies, diseases affecting glomeruli, tubules, interstitium and blood vessels, cystic diseases of kidney, tumors of kidney classification updates.	2	3	2
9.	Morphopathological features of pregnancy. Gestational and placental disorders. Pathology of mammary gland, updates of tumors classification.	2	3	2
10.	Iatrogenic disorders. Definition, classification. Morphopathological diagnosis structure. International classification of disease.	2	3	2
Total		**10**	**30**	**20**

VI. REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
Theme (chapter) 1. Introduction in clinical pathology.	
	The structure, goals and objectives of pathology services. Methods of investigation in histopathology and cytopathology: biopsy, smears, surgical pathology. Methods of stain: routine (H-E), histochemistry, Immunohistochemistry, and molecular markers.
Theme (chapter) 2. General aspects and importance of cytopathological service.	
• The students have to be able to define and understand importance of screening program. • They have to be able to identify risk groups and follow up of patientswith different precancerous lesions. • The student have to be able to interpret and understand diferent tipe of pretumoral lesions.	Screening program importance for healthcare. Papanicolau method, screening program and its role in pretumoral process diagnosis. Bethesda classification Accuracy of evaluation and data collection.
Theme (chapter) 3. Cardiovascular system pathology.	
• Describe the pathogenesis, pathophysiology, and symptoms of atherosclerotic coronary and peripheral vascular disease. • Describe the major pathologic lesions of atherosclerosis and list three major complications. • Describe the gross and microscopic features and complications of myocardial infarct and correlate these pathologic findings with site and clinical symptoms. • Discuss the pathogenesis of rheumatic heart disease and describe the typical cardiac lesions of rheumatic fever. • Describe the pathogenesis, pathophysiology, and	Methods of investigation. Modern classification of myocardial infarction and cardiomyopathy. Correlation between clinical and morphological data Heart tumors biological bihavior.

Objectives	Content units
pathological changes of hypertension. • Identify common types of valvular heart disease, such as aortic stenosis, mitral regurgitation and (rheumatic) mitral stenosis. • Identify common types of infective endocarditis and describe their gross and microscopic findings.	
Theme (chapter) 4. Respiratory system.	
• List major chronic obstructive pulmonary diseases. • Define chronic bronchitis and describe typical lesions and complications of this disease. • Define emphysema, its pathologic changes and clinical symptoms. • Define bronchiectasis, its causes, its pathologic changes and clinical symptoms. • Define Cor pulmonael, its pathologic changes and clinical symptoms. • Compare lobar pneumonia and bronchopneumonia. • Compare bacterial and viral pneumonia. • Describe the typical location, gross appearance, and histologic findings associated with various forms of lung cancer. • Define sarcoidosis, and its pathologic changes.	The role of biopsy in lung pathology diagnosis. Bronchial washings cytology. Morphological features of pneumonias, bacterioscopic examination. Interstitial pneumonias. Acute respiratory distress syndrome. Chronic obstructive pulmonary diseases. Pulmonary hypertension. Lung carcinoma. The diagnosis structure in respiratory system pathology.
Theme (chapter) 5. Gynecopathology.	

Objectives	Content units
• Outline the classification and sub-classification of ovarian tumors. • List the histologic types of cervical carcinoma and discuss the the gross and microscopic characteristics of cervical carcinoma. • Explain the concept of cervical intraepithelial neoplasia (CIN). • Define endometriosis and adenomyosis. • List the histologic types of cervical carcinoma. • Discuss endometrial carcinoma, its clinical presentation and morphology. • Describe the morphology of leiomyomas and their clinical effects. • Describe gestational trophoblastic disease with special emphasis on hydatidiform mole and choriocarcinoma. • Name the most common benign breast tumor and describe its gross appearance, histologic features, and the peak age of incidence. • Describe the typical gross and microscopic pathologic changes in breast cancer and list the clinical and pathologic findings that have most significant prognostic value in breast cancer. • Describe the typical pathologic changes of prostatic cancer.	The role of screening program in cervical cancer prophylaxis, early detection and follow up. Cervical cancer classification, morphology and benign mimicking –as important factor in over diagnosis and misdiagnosis of cancer. Tumors of uterus and ovaries: morphology, staging and grading tumors according to latest classification and their importance in patients follow up. Hydatidiform mole, invasive mole, choriocarcinoma, ovarian tumors, breast cancer,
Theme (chapter) 6. Gastrointestinal system surgical pathology	

Objectives	Content units
• Discuss reflex esophagitis in terms of its clinical significance, symptoms, histologic changes and possible consequences. • Discuss esophageal carcinoma in terms of etiology, clinical presentation, prognosis as well as gross and microscopic appearances. • Define acute and chronic gastritis and understand the role of Helicobacter pylori in gastrointestinal disease. • Understand peptic ulcer disease, discuss locations, gross and microscopic appearances and complications. • Discuss the gross and microscopic features of gastric carcinoma, its clinical setting, prognosis and associations. • Describe adenocarcinoma of the colon including most common location, gross pattern, histology, clinical presentation, biological behavior and staging. • Describe the pathologic changes induced by hepatitis virus. • Define cirrhosis, state its cause, describe its gross and microscopic features and give its clinical and laboratory sequelae • Know the 3 major types of primary liver tumors and be familiar with their etiology and pathogenesis.	Importance of endoscopic investigation and their correct orientation in early diagnosis of tumors. Diseases of liver and pancreas. The diagnosis structure in Gastrointestinal and pancreato-hepatic pathology. Transplantation of liver: terms and conditions Gastrointestinal system tumors.
Theme (chapter) 7. Central nervous system pathology	
• Describe the main neuropathologic features of epidemic bacterial meningitis.	Cerebro-vascular pathology. Brain tumors classification.

Objectives	Content units
• Describe the main neuropathologic features of type B epidemic encephalitis. • Describe the main pathologic findings of astrocytoma and neuilemmoma.	Morphopathology, diagnosis and follow-up in of patients with cerebral tumors. Childhood brain tumors.
Theme (chapter) 8. Renal and mail genital system pathology morphology	
• Discuss the pathogenesis, clinical course, and outcome of post-streptococcal and crescentic glomerulonephritis. • Discuss three causes of the nephrotic syndrome. • Recognize the gross and most important microscopic characteristics of various types of acute glomerulonephritis. • Compare the pathology and clinical symptoms of acute and chronic pyelonephritis. • Compare glomerulonephritis. and. pyelonephritis. • Describe the pathology and clinical features of renal cell carcinoma, Wilms' tumor, and transitional cell carcinoma of the renal pelvis and bladder.	Clinical manifestations of renal diseases: congenital anomalies, diseases affecting glomeruli, tubules, interstitium and blood vessels, cystic diseases of kidney, tumors of kidney classification updates.
Theme (chapter) 9. Morphopathological features of pregnancy	
• Be able to perform gross and microscopic examination of products of conception (POC); understand the clinical context of POC diagnoses; understand the importance of specific diagnoses (e.g. negative POC, gestational trophoblastic disease) for patient care	Gestational and placental disorders. Pathology of mammary gland, updates of tumors classification. Gross and microscopic skills for identification and diagnosis of products of conception; be familiar with the availability and interpretation of techniques for chromosome studies in spontaneous abortions (cytogenetics and FISH); be able to diagnose gestational trophoplastic disease (histopathology, flow cytometry) Gross and microscopic patterns of common placental lesions; understand their clinical relevance Be familiar with the medicolegal aspects of the placental examination

Objectives	Content units
• Be able to perform gross and microscopic examination of the placenta; understand the clinical context of placental diagnoses; understand the importance of selected diagnoses (e.g. marked acute chorioamnionitis with vasculitis, diffuse villitis) for patient care • Communicate effectively with the medical staff and, if indicated, the patients/parents • Demonstrate respect for the confidentiality of patient information	
Theme (chapter) 10. Iatrogenic disorders	
• Define iatrogenic disorders • Understand the difference between iatrogenic disease and medical error • Identifying the iatrogenic complications related to nursing care in the emergency sector of a public hospital • Understand the importance of in-service education for nursing professionals is regarded as a mainstay to the effective care for patients.	Definition, classification. Morphopathological diagnosis structure. International classification of disease. Examples of iatrogenic disorders Causes and consequences Medical error and negligence Adverse effects Psychiatry Iatrogenic poverty Social and cultural iatrogenesis

VII. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY OUTCOMES

✓ Professional (specific) (SC) competences

The Student will develop a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse population of patients and health care providers. He/she will learn to behave in a patient-centric fashion, putting the welfare of patients above personal concerns, and develop a work ethic appropriate to a profession that exists to serve others. Students will learn the importance of accountability, transparency, altruism, and self-regulation as components of professionalism.

✓ Transversal competences (TC)

Maintain and enhance professional activities through ongoing learning
Describe the principles of maintenance of competence
Describe the principles and strategies for implementing a personal knowledge management system
Recognize and reflect on learning issues in practice
Conduct personal practice audit
Pose an appropriate learning question
Access and interpret the relevant evidence
Integrate new learning into practice
Evaluate the impact of any change in practice
Document the learning process

Study outcomes

Note. Study outcomes (are deduced from the professional competencies and formative valences of the informational content of the discipline).

1. To define the theoretical foundations of pathology;
2. To know the etiology, pathogenesis, epidemiology of diseases;
3. To identify specific features of clinical and laboratory examination of patients;
4. To detect the morphological features of the diseases;
5. To define diagnostic criteria and be able to make differential diagnosis
6. To use the methods of the diagnosis of anemias;
7. To make the diagnosis and to provide medical assistance
8. To master the methods ofinvestigation in pathology.

VIII. STUDENT'S SELF-TRAINING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Work with information sources	Careful reading of lecture or the textbook material on the theme. Reading the questions on the theme, that requires a reflection on the subject. Refer to the list of additional information sources on the theme. Choose the source of additional information on the theme. Reading of the text entirely, carefully and writing down the essential content. Making generalizations and conclusions related to the importance of the theme/subject.	The ability to extract the essential; skills to interpret; the volume of work	throughout the semester
2.	Working with the workbook	To analyze the information and the images on the theme based on the material from lectures and textbook. Consistent solving the tasks. Drawing conclusions at the end of each lesson. The verification of the aims of the	The volume of work, solving situational problems, the ability to draw conclusions	throughout the semester

		lesson in question and assessment of their achievement. Searching for additional information, using e-mail addresses and additional bibliography.		
3.	Application of various learning techniques		The volume of work, the degree of penetration into the essence of various themes, the level of scientific argumentation, quality of conclusions, elements of creativity, demonstration understanding the problem, formation of personal attitude	throughout the semester
4.	Working with materials online	Self-assessment online, study of materials online on the WEBSITE of the department, expressing one's own opinions through the forum and chat	The number and duration of entries on the SITE, the results of self-assessment	throughout the semester
5.	Preparation and presentation of research	Choice of the theme for research, makig plan the research plan, provision of the terms of realization. Setting PowerPoint project / theme components, purpose, results, conclusions, practical applications, bibliography. Reviews of.peers. Reviews.of professors and lecturers	Volume of work, the degree ofpenetration into the essence of the theme of the project, the level of scientific argumentation, the quality of conclusions,elements of creativity,personal attitude formation, coherence of exposure and scientific correctness, graphic presentation, presentation method.	throughout the semester

IX. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- ***Teaching and learning methods used***
- LEARNING EXPERIENCES. The following teaching/learning methods will be used to identify how individual objectives will be achieved:
- • Routine work: the most important learning experience will be day-to-day work. Histopathology trainees are amongst the most closely supervised groups in postgraduate medical training. This

close supervision allows frequent short episodes of teaching, which may hardly be recognised as such by trainees.

- • Textbooks: Morphopathology departments have a wide range of reference texts available. These allow trainees to 'read around' routine cases that they are reporting. Histopathology is a subject requiring a great deal of background learning and reading, as well as the practical experience gained within day-to-day working, and trainees should take every advantage to 'read around' their subject.
- • Private study: more systematic reading of textbooks and journals will be required in preparation for examinations. • 'Black box' and other departmental teaching sessions: these occur on a regular basis in most departments. • Regional training courses: these are valuable learning opportunities. Trainees should be released from service duties to attend. • Scientific meetings: research and the understanding of research are essential to the practice of histopathology. Trainees should be encouraged to attend and present their work at relevant meetings. • Multidisciplinary team meetings (MDTs): attendance at and contribution to MDTs and clinicopathological conferences offers the opportunity for trainees to develop an understanding of clinical management and appreciate the impact of histopathological diagnosis on patient care. The MDT is also an important arena for the development of inter-professional communication skills. • Attachment to specialist departments: attachments of this kind will be required if a training programme cannot offer the full range of specialist experience needed to complete the curriculum. They will also be beneficial for those trainees in their final year of training who wish to develop a special interest before taking up a consultant post. • E-learning • Learning with peers • Work-based experiential learning • Medical clinics including specialty clinics • Multidisciplinary team meetings • Practical laboratory experience • Formal postgraduate teaching • Independent self-directed learning
- • Formal study

- ***Applied teaching strategies / technologies*** *(specific to the discipline)*
- Multisource Feedback (MSF) This tool is a method of assessing generic skills such as communication, leadership, team working, reliability etc, across the domains of Good Medical Practice. This provides objective systematic collection and feedback of performance data on a trainee, derived from a number of colleagues. This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The mini-CEX can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available. Direct Observation of Procedural Skills (DOPS) A DOPS is an assessment tool designed to assess the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development. Case based Discussion (CbD) The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases and laboratory tests by trainees. The CbD should include discussion about a written record (such as written case notes, out-patient letter, discharge summary or laboratory result). A typical encounter might be when presenting newly referred patients in the out-patient department, presenting a case based around a laboratory investigation or discussing a case presenting out of hours. Patient Survey (PS) Patient Survey address issues, including behaviour of the doctor and effectiveness of the consultation, which are important to patients. It is intended to

assess the trainee's performance in areas such as interpersonal skills, communication skills and professionalism by concentrating solely on their performance during one consultation. Audit Assessment Tool (AA) The Audit Assessment Tool is designed to assess a trainee's competence in completing an audit. The Audit Assessment can be based on review of audit documentation OR on a presentation of the audit at a meeting. If possible the trainee should be assessed on the same audit by more than one assessor. Teaching Observation (TO) The Teaching Observation form is designed to provide structured, formative feedback to trainees on their competence at teaching. The Teaching Observation can be based on any instance of formalised teaching by the trainee who has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

- ***Methods of assessment*** *(including the method of final mark calculation)*

In this stage, the exam will involve a mixture of microscopic assessment of slides, macroscopic assessment of specimens and face-to-face stations. The face-to-face stations will require no written answers, but the other cases will take the form of short answers. For example, candidates may be required to write a histopathology report based on their assessment of the slide and then questions related to this pathologic process.

The purpose of the assessment system is to:

• Enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, measure their own performance and identify areas for development; • Drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience; • Provide robust, summative evidence that trainees are meeting the curriculum standards during the training programme; • Ensure trainees are acquiring competencies within the domains of Good Medical Practice; • Assess trainees' actual performance in the workplace; • Ensure that trainees possess the essential underlying knowledge required for their specialty; • Inform the Annual Review of Competence Progression (ARCP), identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme; • Identify trainees who should be advised to consider changes of career direction. The integrated assessment system comprises a range of workplace-based assessments and knowledge– based assessments. Workplace-based assessments will take place throughout the training programme to allow trainees to continually gather evidence of learning and to provide trainees with formative feedback. They are not individually summative but overall outcomes from a number of such assessments provide evidence for summative decision making. The number and range of these will ensure a reliable assessment of the training relevant to their stage of training and achieve coverage of the curriculum.

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	**2**	**F**
3,01-4,99	**4**	**FX**

5,00	**5**	**E**
5,01-5,50	**5,5**	
5,51-6,0	**6**	
6,01-6,50	**6,5**	**D**
6,51-7,00	**7**	
7,01-7,50	**7,5**	**C**
7,51-8,00	**8**	
8,01-8,50	**8,5**	**B**
8,51-8,00	**9**	
9,01-9,50	**9,5**	**A**
9,51-10,0	**10**	

The average annual mark and the marks of all stages of final examination (computer assisted, test, oral) - are expressed in numbers according to the mark scale (according to the table), and the final mark obtained is expressed in number with two decimals, which is transferred to student's record-book.

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations.

X. RECOMMENDED LITERATURE:

A. Compulsory:

Suggested text books *(the latest editions)*

- Rosai J (2011) Rosai and Ackerman's Surgical Pathology (10th ed) Mosby.
- Silverberg S, DeLellis R, Frable W, LiVolsi V and Wick M (2005) Silverberg's
- Practice of Surgical Pathology and Cytopathology. Churchill Livingstone.
- Burton JL and Rutty G (2010) The hospital autopsy (3rd ed).
- Any other text books related to Anatomical/Surgical/Autopsy pathology
- Robbins and Cotran – Pathologic basis of disease 6, 7, 8, 9th editions.
- Robbins and Cotran – Atlas of pathology – international edition.
- Stevens, Lowe – Pathology.
- Alan Stevens, Lowe – Wheater's Basic histopathology – a colour atlas and text.

B. Additional

AFIP Series of Fascicles/Tumour Atlases
• WHO Tumour Atlases
• Numerous useful web sites. Trainees should seek the advice of their supervisor as to appropriateness at each level of training.