**SYLLABUS**

1. **Programme Details**

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| **1.1.** | **GRIGORE T. POPA UNIVERSITY OF MEDICINE AND PHARMACY IASI** |
| **1.2.**  | **FACULTY : MEDICINE / DEPARTMENT: MORPHOFUNCTIONAL SCIENCES I** |
| **1.3.** | **DISCIPLINE: MORPHOPATHOLOGY** |
| **1.4.**  | **FIELD of STUDY: HEALTH** |
| **1.5.** | **STUDY CYCLE: BACHELOR**  |
| **1.6.** | **PROGRAMME of STUDY: Medicine - ENGLISH**  |
| 1. **Discipline Details**
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| **2.1.** | **Name of the Discipline: MORPHOPATHOLOGY** |
| **2.2.** | **Teaching staff in charge with lectures: Associate Professor Butcovan Doina** |
| **2.3.** | **Teaching staff in charge with seminar activities: Associate Professor Butcovan Doina, Asist. Dr. Ungureanu Loredana Beatrice, Lecturer Giusca Simona, Asist. Spiridon Irene** |
| **2.4. Year**  | **III** | **2.5. Semester** | **I, II** | **2.6. Type of evaluation**  | E2 | **2.7. Discipline regimen**  | **Compulsory** |

1. **Overall Time Estimates (hours/semester of didactic activity)**

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| * 1. **Number of hours per week**
 | **S1: 6****S2: 6** | **Of which: 3.2. lectures** | **S1: 3****S2: 3** | * 1. **seminar/ laboratory**
 | **S1: 3****S2: 3** |
| * 1. **Total hours in the curriculum**
 | 110 | **Of which: 3.5. lectures** | 44 | **3.6. seminar/ laboratory** | 66 |
| **Distribution of time**  |  |  |  |  | Hours |
| **Study time using coursebook materials, bibliography and notes**  | 40 |
| **Further study time in the libray, online and in the field** | 16 |
| **Preparation time for seminars / laboratories, homework, reports, portfolios and essays** | 25 |
| **Tutoring** | 4 |
| **Examinations** | 5 |
| **Other activities** | 0 |
| **3.7. Total hours of individual study** |  | 90 |
| **3.8. Total hours / semester** | S1 : 55+45S2 : 55+45 | **S1: 100****S2: 100** |
| **3.9. Number of credits**  | 8 credits for activity in both semesters | 8 |

1. **Prerequisites (where applicable)**

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| **4.1. curriculum** | Knowledge of anatomy, histology and cell biology |
| **4.2. competences** | Basic knowledge for obtaining a smear and histological sections |

1. **Conditions (where applicable)**

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| **5.1. for lecture delivery** | Lecture hall equipped with a computer connected to the projector |
| **5.2. for seminar / laboratory delivery** | Special rooms equipped with microscopes for individual study and microscope coupled to the videoprojector used for practical demostrations. |

1. **Specific Competences Acquired**

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| **Professional Competences (knowledge and skills)** | * knowledge of basic pathology;
* knowledge of the main mechanisms of diseases;
* abilities for writing a pathology report;

abilities to interpret pathology reports |
| **Transversal Competences (roles, personal and professional development)** | * knowledge of morphological methods (cyto and histopathological diagnosis on smears and biopsies) used in clinical diagnosis and patient therapy
* knowledge of gross pathology and histopathology in various pathological conditions
* a basic understanding of the laboratory data and of the relationship between laboratory and morphological changes in diseases states.
* to corelate basic science knowledge to clinical medicine
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1. **Obiectives of the Discipline (related to the acquired competences)**

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| **7.1. General Obiective** | * To acquire knowledge of morphological and clinical characteristics of a broad spectrum of lesions
* Understanding of the lesion state at the cellular, tissue, organ, and organismal levels.
* Understanding the main mechanisms of disease
* Establishing morpho-clinical connections in various pathological processes.
* Learning the diagnostic methods and their specific indications for various injuries.
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| **7.2. Specific Obiectives**  | * Learning the morphology and clinical characteristics of a broad spectrum of disease entities
* Anticipate the natural course of disease
* Understanding the pathophysiology of disease
* To interpret signs and symptoms in a patient’s history and to create a differential diagnosis
* To interpret laboratory data and to correlate with morpho-clinical data
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1. **Contents**

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| **8.1. Lecture** | **Teaching methods**  | **Comments** |
| 1.INTRODUCTION IN PATHOLOGY. The aim of Pathology. Methods of study and diagnosis. Morphological and functional approach to lesions, pathological processes and diseases. Classification of the pathological processes.CELULAR PATHOLOGY. Reversible and irreversible cellular lesions: hydropic degeneration, necrosis and apoptosis. Cellular adaptations: hypertrophy, hyperplasia, atrophy and metaplasia. Intracellular accumulations: lipids, proteins, glycogen, pigments. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 2.EXTRACELLULAR LESIONS. Hyalinosis. Amyloidosis. Pathological calcifications: dystrophic and metastatic.  | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 1 hour |
| 3.ACUTE INFLAMMATION. General features about the inflammatory reactions. Acute inflammation: vascular and cellular phases, diapedesis and phagocytosis; chemical mediators; classification of the exudative inflammations: serous, fibrinous and purulent inflammations. Effects and outcome of the acute inflammation. Abscess, phlegmon, septicemia and septico-pyoemia. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 4.CHRONIC INFLAMMATION. Specific and nonspecific chronic inflammation. Definition, etiology, pathogenesis, histopathological features. Granulomatous inflammations: tuberculosis, syphilis, sarcoidosis, fungal and parasitic inflammation, foreign body granuloma. Healing And Tissue Repair. Regeneration. Repair by connective tissue formation: organization, encapsulation and fibrosis. Wounds healing. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 3 hours |
| 5.NEOPLASIA. Definitions; Nomenclature; General characteristics of benign and malignant neoplasms: differentiation and anaplasia; rate of growth; local invasion; metastasis, routes of spreading. Precancerous lesions. Carcinogenesis: molecular mechanism, biology of tumor development; immunity in cancer. Clinical aspects. Grading and staging of malignancies. Morphological diagnosis of tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hour |
| 6.NEOPLASIA. Classification of tumors. General clinico-morphological features of the epithelial and connective tissue neoplasms. Morphology of benign and malignant epithelial tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 7. NEOPLASIA. Morphology of benign and malignant connective tumors. The morphology of melanocytic tumors. Disembryoplastic tumor morphology. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 8.HEMODYNAMIC DISORDERS. Hyperemia and congestion. Hemorrhage. Edema. Thrombosis. Disseminated Intravascular Coagulation. Embolism: pulmonary thromboembolism, systemic thromboembolism, fat embolism, air embolism, amniotic fluid embolism. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 9.HEMODYNAMIC DISORDERS. Acute and chronic ischemia, Infarction: types of infarcts, factors which influence the development of infarcts. Morphology in shock. | Computer presentations containing text and images suggestive of microscopic and macroscopic;Interactive presentations to capture the attention of students. | 2 hours |
| 10.cardiovascular PATHOLOGY. Vascular diseases. Arteriosclerosis: atherosclerosis, mediocalcinosis, arteriolosclerosis. Arteritis. Aneurysms: classification, types of aneurysms. Aortic Dissection. Veins pathology: thrombophlebitis and phlebothrombosis, varicose veins. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 11.cardiovascular PATHOLOGY. Heart diseases: Congenital anomalies. Acute ischemic heart disease: angina pectoris, myocardial infarction, sudden death. Chronic ischemic heart disease. Systemic hypertension. Primary and secondary cardiomyopathies. Myocarditis. Acute and chronic cardiac rheumatism. Endocarditis. Valvulopathies. Pericardial pathology. Cardiac failure. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 12.RESPIRATORY SYSTEM PATHOLOGY**.** Respiratory tract pathology: rhinopharyngitis, laryngitis, tracheitis, bronchitis. Athelectasis. Chronic Obstructive Pulmonary Disease: chronic bronchitis, bronchiectasis, bronchial asthma, emphysema. Pulmonary infections: bacterial pneumonia, bronchopneumonia, interstitial pneumonia (primary atypical pneumonia), lung abscess. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 13.RESPIRATORY SYSTEM PATHOLOGY. Pulmonary tuberculosis: primary and secondary tuberculosis. Pneumonia in immunocompromised individuals. Pneumoconiosis. Tumors: bronchogenic carcinoma, paraneoplastic syndromes, bronchioloalveolar carcinoma, neuroendocrine tumors, pulmonary metastasis.Pleural pathology: pleural effusions, primary and secondary tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 1 hour |
| 14.KIDNEY AND URINARY TRACT PATHOLOGY.Congenital Diseases. Glomerular Diseases: clinical syndromes; histological alterations; pathogenesis of glomerular injury. Acute proliferative diffuse postinfectious glomerulonephritis, rapidly progressive (crescentic) glomerulonephritis. Membranous glomerulonephritis (membranous nephropathy). Minimal change glomerular disease (lipoid nephrosis). Membranoproliferative glomerulonephritis. Ig A nephropathy (Berger disease). Focal and proliferative glomerulonephritis. Chronic glomerulonephritis. Glomerular lesions associated with systemic diseases. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 15. URINARYTRACT PATHOLOGY. Tubulo-interstitial nephropathies: acute tubular necrosis, tubular-interstitial nephritis: acute and chronic pyelonephritis, reflux nephropathy, tubulo-interstitial nephritis induced by drugs and toxins. Vascular nephropathies: benign and malignant nephroangiosclerosis. Urinary tract obstruction (obstructive uropathy). Renal tumors. Pathology of the bladder and urinary disorders: congenital diseases, inflammation, benign and malignant tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 16. DIGESTIVE TRACT PATHOLOGY. Pathology of the esophagus: congenital diseases, esophagitis and tumors.Gastric pathology: acute and chronic gastritis. Peptic ulcer. Benign and malignant tumors. Small intestine and colon pathology: congenital diseases. Infectious enterocolitis. Idiopathic chronic inflammatory diseases: Crohn's disease & ulcerative colitis. Benign and malignant tumors.Appendix pathology: Acute and chronic appendicitis; tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 17.LIVER, BILLIARY TRACT, EXOCRINE PANCREAS PATHOLOGY. Liver pathology: Jaundice and cholestasis. Acute and chronic viral hepatitis. Autoimune hepatitis. Drug and toxic induced liver diseases: Alcoholic liver disease. Inborn errors of metabolism: hemochromatosis, Wilson disease, α 1 antitrypsin deficiency, neonatal hepatitis. Hepatic cirrhosis. Portal hypertension. Benign and malignant tumors.Biliary tract pathology: Cholelitiasis. Acute and chronic cholangitis. Acute and chronic cholecystitis. Carcinoma of the gallbladder and extrahepatic ducts.Exocrine Pancreas pathology: Acute and chronic pancreatitis. Benign and malignant tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 18. HEMATOPOETIC AND LYMPHATIC SYSTEMS. Reactive lymphadenitis.Malignant lymphoma: Hodgkin lymphoma and non-Hodgkin lymphomas**.** Leukemias and myeloproliferative disorders: acute leukemias & chronic leukemias. Multiple myeloma. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 19.MALE GENITAL PATHOLOGY: Testis and prostate tumors.FEMALE GENITAL TRACT. Morphological methods of diagnosis: Cervix pathology: cervicitis; endocervical polyps; cervical intraepithelial neoplasia and squamos cell carcinoma. Uterine body pathology: adenomyosis, endometriosis, endometritis, functional disorders, benign and malignant tumors. Fallopian tube pathology: acute and chronic inflammations, tumors. Ovary pathology: ovary polycystic disease and tumors. Gestational and placental disorders: abortion, ectopic pregnancy, gestational trophoblastic disease. Breast pathology: inflammations, fibrocystic changes, benign and malignant tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 5 hours |
| 20.ENDOCRINE PATHOLOGY**.** Pathology of pituitary gland: adenomas. Thyroid pathology: hypothyroidism (cretinism, myxedema), hyperthyroidism (thyrotoxicosis), Graves disease, acute and chronic thyroiditis, diffuse nontoxic simple goiter, multinodular goiter, benign and malignant tumors. Pathology of parathyroid glands: primary and secondary hyperparathyroidism. Adrenal gland pathology: adrenal syndrome (Cushing sdr.), primary aldosteronism, adrenogenital sdr., 21-hydroxylase deficiency, primary acute adrenocortical insufficiency (Waterhouse-Friderichsen sdr.), primary chronic insufficiency (Addison's disease). Adrenocortical tumors. Pathology of the adrenal medulla: pheochromocytoma, neuroblastoma. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| 21.PATHOLOGY OF SKELETAL DISORDERS. Pathology of Bones: Diseases associated with impaired mineral homeostasis: rachitism and osteomalacia. Infections: pyogenic osteomyelitis. Bone tumors.PATHOLOGY OF SKELETAL MUSCLE. Inflammatory myopathies, toxic myopathies. Neuromuscular junction diseases: myasthenia gravis.CENTRAL NERVOUS SYSTEM PATHOLOGY.Malformations. Traumatic vascular lesions: epidural and subdural hematoma. Cerebrovascular diseases: cerebral infarction, intracerebral hemorrhage and subarachnoid hemorrhage. Hypertensive encephalopathy. Infections: acute bacterial and viral meningitis. Suppurated acute infection outbreak: brain abscess, subdural empyema, extradural abscess. Chronic bacterial meningoencephalitis: tuberculosis, neurosyphilis. Primary and secondary tumors. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Interactive presentations to capture the attention of students. | 2 hours |
| **Bibliography**1. Pathology course, Doina Butcovan, Ed.Universitas XXI Iasi, 009, ISBN 978-606-538-019-6
2. Atlas and textbook of pathology. Doina Butcovan, Ed.Universitas XXI Iasi,2005 ISBN 978-606-538-019-6
3. Robbins Basic Pathology, 9th edition, by Kumar V, Abbas AK and Aster JC, 2013, Saunders Compagny, ISBN: 978 143 771 7815
4. Stevens A, Lowe J. General and Special Pathology, 1996.
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| **8.2. Seminar / Laboratory** | **Teaching methods**  | **Comments** |
| 1. Morphological diagnostic methods: Anatomo-clinical autopsy. | Computer presentation - necropsy practice in anatomic pathology services. | 2 hours |
| 2. Morphological diagnostic methods: Histopathological diagnosis and cytodiagnosis. | Computer theoretical presentation of techniques containing histo and cytopathological images obtained in clinical practice. | 2 hours |
| 3. Cellular lesions I: Acute reversible cell lesions: hydropic degeneration, irreversible cell lesions: necrosis; Chronic reversible cell lesions: (1) adaptive lesions: hypertrophy and hyperplasia, and atrophy. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 4. Cellular lesions II: Chronic reversible cell lesions: (2) intracellular accumulations of: neutral lipids in hepatic steatosis; endogenous bilirubin pigment in liver jaundice. Extracellular lesions: hyalinosis, amyloidosis, pathological tissue calcification. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 5. Acute inflammation: morphology of the main types of inflammatory exudates: serous, fibrinous, purulent. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 2 hours |
| 6. Chronic inflammation: tuberculous granulomatous inflammation, actinomycosis, syphilis, hydatid cyst. Healing by regeneration and connective repair: vascular, fibro-vascular and fibrous granulation tissue. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 7. Benign epithelial tumors: papilloma and adenoma | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 8. Malignant epithelial tumors: microscopic characteristics of anaplastic cells; Morphology of squamous cell carcinoma, basal cell carcinoma and adenocarcinoma. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 9. Benign and malignant connective tissue tumors: uterine leiomyoma, lipoma, condroma, hemangioma, fibrosarcoma, osteosarcoma. Teratomas. Melanocytic tumors: Compound melanocytic nevus, malignant melanoma. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 10. Disorders of the blood flow I: edema, congestion, hemorrhage | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 11. Disorders of the blood flow II: thrombosis, infarction | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects;Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 2 hours |
| 12. Anatomo-clinical autopsy | In pathology services in different hospitals. | 2 hours |
| 13. Recapitulation  | Individual student study. | 2 hours |
| 14.Cardiovascular Pathology I: heart autopsy, atherosclerosis, systemic hypertension, aneurysms, aortic dissection, congenital heart disease, ischemic cardiomyopathy: myocardial infarction and chronic heart failure | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 15.Cardiovascular Pathology II: myocarditis, acute and chronic cardiac rheumatism, infective endocarditis (acute and subacute), pericardial diseases | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 16.Respiratory Pathology I: lobar pneumonia, bronchopneumonia, aspiration bronchopneumonia, lung abscess, bronchiectasis, pulmonary emphysema. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 17.Respiratory Pathology II: pulmonary tuberculosis, hyaline membrane disease, interstitial pneumonia, pulmonary silicosis, lung cancer, pleural pathology | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 18.Urinary Tract Pathology I: glomerular diseases, congenital anomalies, obstructive uropathy | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students. Gross pathology presentations. | 3 hours |
| 19.Urinary Tract Pathology II: tubulo-interstitial renal disease, kidney tumors, tumors of the urinary tract. Nodular hyperplasia of prostate. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 20. Gastrointestinal Tract Pathology: esophagus: esophageal atresia, carcinoma of the esophagus; stomach: Acute hemorrhagic gastritis, acute ulcer and chronic peptic ulcer, gastric carcinoma; intestine: Meckel diverticulum, pseudomembranous colitis, chronic ulcerative colitis, benign and malignant tumors, phlegmonous appendicitis | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 21. Pathology of the liver, biliary tract and pancreas: liver: hepatitis, cirrhosis, liver cancer, biliary tract: cholecystitis, cholesterolosis, cholelithiasis, carcinoma; pancreas: acute pancreatitis, pancreatic cancer. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 22. Anatomo-clinical autopsy | In pathology services in different hospitals. | 3 hours |
| 23. Hematopoietic and lymphoid system pathology : the processing of the lymph node biopsy for the histopathological diagnosis, Hodgkin lymphoma, non - Hodgkin lymphoma, chronic lymphoid leukemia, chronic myeloid leukemia and multiple myeloma | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students.Gross pathology presentations. | 3 hours |
| 24. Female Genital Tract Pathology: cervix: chronic cervicitis, endocervical polyp, carcinoma of the cervix; endometrium: dishormonal lesions: simple hyperplasia, benign and malignant tumors; ovary: benign and malignant tumors; pathology of pregnancy: abortion, ectopic pregnancy, placental tumors; mammary gland: fibroadenoma, carcinoma of the mammary gland. | Computer presentations containing text and images suggestive of microscopic and macroscopic aspects.Video interactive histopathological presentations to capture the attention of students;Gross pathology presentations. | 3 hours |
| 25 Anatomo-clinical autopsy | In pathology services in different hospitals. | 3 hours |
| 26. Recapitulation | Individual student study. | 4 hours |
| **Bibliography**1. Pathology course, Doina Butcovan, Ed.Universitas XXI Iasi, 009, ISBN 978-606-538-019-6
2. Atlas and textbook of pathology. Doina Butcovan, Ed.Universitas XXI Iasi,2005 ISBN 978-606-538-019-6
3. Robbins Basic Pathology, 9th edition, by Kumar V, Abbas AK and Aster JC, 2013, Saunders Compagny, ISBN: 978 143 771 7815
4. Stevens A, Lowe J. General and Special Pathology, 1996.
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1. **Correlations between the contents of the discipline and the expectations of the epistemic community, of profesional associations and of employers in the field**

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| Course content is similar with what is done in other universities in the country and abroad. Course content is adapted to meet the requirements of the labor market, being accepted by professional associations and employers in the license for the program. |

1. **Evaluation**

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| **Type of activity**  | **10.1. Evaluation criteria:**  | **10.2. Methods of evaluation** | **10.3. Percentage of final grade** |
| **10.4. Lecture** | Grade for multiple choice test | Final assessment by written tests –MCQ type. | 50% |
| **10.5. Seminar / Laboratory** | Average grade of activity during the semester | Continuous assessment through oral and / or written evaluation of the knowlledge. | 10% |
| Grade for practical examination | Oral evaluation of the gross and histopathological knowledge. | 40% |
| **Minimum standard of performance: at least grade 5 to pass the discipline** |

**Date: 17.10.2019 Signiture of Didactic Coordinator**

 **CONF UNIV DR SERGIU TELEMAN**

 **Signiture of Department Director CONF UNIV DR CRISTI STAN**