

**IV year (1st-2nd semester)  
A.Y. 2021-2022**

Scientific Field	<b>ANATOMIC PATHOLOGY</b>	TUTOR	ECTS
MED/08	Anatomic Pathology 1	Orlandi Augusto	1
MED/08	Anatomic Pathology 1	Anemona Lucia	1
MED/08	Anatomic Pathology 1	Mauriello Alessandro	1
MED/08	Anatomic Pathology 1	Bonanno Elena	1
MED/08	Anatomic Pathology 1	Giacobbi Erica	1
MED/08	Anatomic Pathology 2	Mauriello Alessandro	1
MED/08	Anatomic Pathology 2	Anemona Lucia	2
MED/08	Anatomic Pathology 2	Bonanno Elena	1
MED/08	Anatomic Pathology 2	Giacobbi Erica	1
MED/08	Anatomic Pathology 2	Servadei Francesca	1
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**MAURIELLO A.  
COORDINATOR**

**TOPICS**

**GENERAL ANATOMIC  
PATHOLOGY**

Cell injury, adaptation and cell death; Acute and Chronic Inflammation; Cellular regeneration and fibrosis; Hemodynamic alterations, thrombosis, embolism; Displasia and Classification of Tumors; Clinical features, Grading and Staging of tumors.

**TOPICS**

**TECHNICAL AND  
DIAGNOSTICAL SKILLS OF  
THE AUTOPSY**

Post-mortem phenomena; Dociamasia; External Examination of the Cadaver; Cyanosis; Jaundice; Anaemia; Bruise; Internal Examination (Fibrothorax, Pneumothorax, Pleural effusions, Transudate and Exudate,etc).

**TOPICS**

**PATHOLOGY OF THE  
CARDIOVASCULAR  
SYSTEM**

Atherosclerosis. Aneurysms. Vasculitis. Cardiac failure. Cardiac hypertrophy and hypertension. Ischemic cardiopathy ( sudden death, Angina Pectoris, myocardial infarction, myocardiosclerosis). Acute and Chronic pulmonary heart disease. Endocarditis and valvular defects. Myocarditis. Cardiomyopathies. Acute and Chronic pericarditis. Tumors of the heart. Congenital cardiopathies: a) right to left shunt with early Cyanosis (tetralogy of Fallot, transposition of the great arteries, patent truncus arteriosus, tricuspid atresia), b) left to right shunt with late cyanosis (ventricular septal defects, atrial septal defects, persistent ductus arteriosus botalli), c) obstructions leading to cyanosis (coarctation of the aorta, pulmonary stenosis or isolated atresia, aortic stenosis or atresia), malpositions (dextrocardia, ectopia cordis).

TOPICS PATHOLOGY OF THE RESPIRATORY SYSTEM	Pulmonary edema and congestion. Pulmonary atelectasis. Embolism and pulmonary infarction. Respiratory distress syndrome in adults and children (hyaline membrane disease). Chronic obstructive pulmonary diseases (bronchitis, bronchial asthma, bronchiectasis, emphysema). Restrictive pulmonary diseases (idiopathic pulmonary fibrosis, coalworker's pneumoconiosis, anthracosis, silicosis, asbestosis, berylliosis, Goodpasture syndrome, alveolar proteinosis). Pulmonary infections (tuberculosis, pneumonia, bronchial pneumonia, pulmonary abscess). Benign and malignant tumors of the lung. Pathology of the pleura (effusion, pleuritis, and tumors).
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TOPICS PATHOLOGY OF THE LIVER AND OF THE EXTRAHEPATIC BILIARY TRACT	Diseases of the circulation (hepatic stasis, infarctions, Budd-Chiari syndrome, venoocclusive diseases, obstruction and thrombosis of the portal vein), acute and subacute yellow atrophy of the liver, acute and chronic viral hepatitis, abscess and pseudoabscess, alcoholic hepatopathy (fatty degeneration, alcoholic hepatitis), hepatic fibrosis, hepatic cirrhosis (alcoholic, post-hepatitis and postnecrotic, alpha-1-antitrypsin deficiency cirrhosis, pigmentary and primitive biliary cirrhosis), portal hypertension, cholelithiasis, acute and chronic cholecystitis, tumors of the biliary tract, tumors of the liver (primary and metastatic).
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TOPICS PATHOLOGY OF THE PANCREAS	Acute and chronic pancreatitis, tumors of the exocrine pancreas.
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TOPICS

PATHOLOGY OF THE ENDOCRINE SYSTEM

PITUITARY GLAND: Malformations. Inflammation. Circulation defects. Tumors of the anterior lobe and posterior lobe. Anatomic-clinical aspects: hyperpituitarism, hypopituitarism, diabetes insipidus, early puberty, adiposogenital dystrophy.

THYROID: Malformations. Thyroiditis. Goiter. Anatomic-clinical aspects: hyperthyroidism, hypothyroidism. Benign and malignant tumors.

PARATHYROID: Development defects. Hyperplasia. Adenoma. Carcinoma. Anatomic-clinical aspects: hyperparathyroidism, hypoparathyroidism.

ENDOCRINE PANCREAS: Diabetes mellitus. Benign and malignant tumors of the pancreatic islets.

MULTIPLE ENDOCRINE NEOPLASIA

ENDOCRINE PANCREAS: Diabetes mellitus. Benign and malignant tumors of the pancreatic islets.

ADRENAL GLAND: Adrenal cortex: Circulation defects, Inflammation, Hyperplasia, Adenoma, Carcinoma, Anatomic-clinical aspects: hyperadrenalism, hypoadrenalism.

ADRENAL MEDULLA: Circulation defects, inflammation, tumors (pheochromocytoma, neuroblastoma, ganglioneuroma, ganglioneuroblastoma). Extra-adrenal paraganglia: Hyperplasia, paragangliomas.

TOPICS

PATHOLOGY OF THE MALE GENITAL ORGANS

Hypertrophy and carcinoma of the prostate, Tumors of the testis.

TOPICS

PATHOLOGY OF THE FEMALE GENITAL ORGANS

Inflammation and Tumors of the Vagina, Vulva and Uterine Cervix. Benign and Malignant Tumors of the Uterus. Benign and malignant Tumors of the Ovary.

<p>TOPICS</p> <p>PATHOLOGY OF THE BREAST</p>	<p>Fibrocystic Breast Disease, Benign and malignant Tumors, Gynecomastia.</p>
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<p>TOPICS</p> <p>DIGESTIVE SYSTEM PATHOLOGY</p>	<p>SALIVARY GLANDS: Saliadenitis, tumors.</p> <p>PATHOLOGY OF THE ESOPHAGUS: Motor dysfunction related lesions, Esophagitis, Diverticula, Tumors.</p> <p>PATHOLOGY OF THE GASTROINTESTINAL TRACT: Acute and chronic gastritis, Peptic Ulcer, Pre-malignant gastric lesions, Tumors of the Stomach, Malabsorption Syndrome (Celiac disease, Whipple disease), Intestinal Infarction, Specific Enterocolitis (TBC, Typhus) and Non Specific Enterocolitis, Crohn's Disease, Ulcerative Colitis, Megacolon, Diverticula, Benign and Malignant Tumors of the Small Bowel and Colon. Tumors of the Anus.</p> <p>PERITONEUM: Peritonitis, Benign and Malignant Tumors.</p>
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<p>TOPICS</p> <p>PATHOLOGY OF THE URINARY SYSTEM AND KIDNEY</p>	<p>Main clinical syndrome of the Kidney. Polycystic Kidney. Primary and Secondary Glomerulonephritis. Tubulointerstitial diseases. Renal tuberculosis. Vascular diseases of the Kidney, Hydronephrosis. Acute tubular necrosis. Obstructive Uropathy. Renal Calculi. Wilms Tumor. Benign and Malignant Tumors of the Kidney in adults. Acute and Chronic Cystitis. Tumors of the Bladder and Ureter.</p>
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<p><b>TOPICS</b></p> <p><b>PATHOLOGY OF THE BRAIN</b></p>	<p>Aneurisms of the Willis Circle. Endocranial Hypertension. Cerebral edema. Hydrocephalus. Intracranial Hemorrhage (Epidural Hematoma, Subdural Hematoma, Subarachnoid Hemorrhage, Cerebral Stroke). Cerebral Softening. Inflammations (Non Suppurative, Suppurative and Specific Meningitis), Cerebral Abscess.</p> <p>Viral Diseases: Equine Encephalitis, Acute Necrotizing Encephalitis, Herpes Zoster Encephalitis, Lentivirus Encephalitis, Poliomyelitis).</p> <p>Degenerative diseases: (Alcoholic Cerebroathy, Alzheimer Disease, Pick disease, Atherosclerotic Cerebral Atrophy).</p> <p>Tumors of the Nervous Central System : Meningiomas, Astrocytomas, Glioblastoma Multiforme, Ependymoma, Medulloblastoma, Ganglioneuroma, Oligodendroglioma, Cerebellopontine angle tumors, Metastatic Tumors.</p>
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<p><b>TOPICS</b></p> <p><b>PATHOLOGY OF THE HEMATOPOIETIC SYSTEM: LYMPHNODES</b></p>	<p><b>LYMPHNODES:</b> Lymphadenitis (follicular, of the sinus, diffuse, mixed). Non Hodgkin Lymphoma Classification. Non Hodgkin B cells lymphomas (Lymphoblastic lymphoma, Chronic lymphatic Leukemia, Lymphoplasmacytic Lymphoma, Mantle cell Lymphoma, Follicular Center Cell Lymphoma, Marginal Zone Lymphoma, Diffuse large B Cell Lymphoma, Primary Mediastinal Large B cell Lymphoma, Burkitt Lymphoma). General Concepts of T cell Lymphomas. Hodgkin Lymphoma. Primary Gastrointestinal Lymphomas. Histiocytosis.</p> <p><b>BONE MARROW:</b> General principles of Bone Marrow Various cellular Histotypes and Bone Marrow Biopsy. Hypercellular Bone Marrow. Hypocellular Bone Marrow. General principles of the acute leukaemias. Myeloproliferative diseases. Myelodysplastic diseases. Plasma cell dyscrasia and related disorders. Primary and Secondary lymphomas.</p> <p><b>THYMUS:</b> Thymic hyperplasia. Classification of the Thymic Tumors. Thymomas and Thymic Carcinomas.</p> <p><b>SPLEEN:</b> Splenomegaly. Primary and Secondary Lymphomas. Primary and Secondary Neoplastic lesions.</p>
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<p><b>TOPICS</b></p> <p><b>PATHOLOGY OF THE SKIN</b></p>	<p>Nevi and Melanomas, Tumors of the Skin.</p>
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<p><b>TOPICS</b></p> <p><b>PATHOLOGY OF THE SOFT TISSUE</b></p>	<p>Tumors of the Peripheral Nerve Sheath. Fibro histiocytic Tumors. Tumors of the Adipose Tissue. Tumors of the Muscular Tissue. Benign and malignant tumors of the Bone and Cartilage. Synovitis. Tumors of the Synovia.</p>
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## TEXTBOOKS

Robbins & Cotran Pathologic Basis of Disease, 9e (Robbins Pathology)

## EXAM METHOD

At the end of first semester: first written test (AP1) concerning the relative program; second written test (AP2) concerning the relative program will be performed at the end of the second semester; written tests contain open questions and/or multiple questions with selection of established answers and will receive a mark. After positive outcome of the written test (>18 mark), a final oral examination concerning the entire program will confirm or modify the mean written mark.

## EXAM COMMISSION

The Coordinator, full Professors of the disciplines, Professors of similar disciplines, Specialists of the subject, compose the exam Commission of the Integrated Course.

Mauriello Alessandro (Coordinator)
Orlandi Augusto
Bonanno Elena
Anemona Lucia
Servadei Francesca

Giacobbi Erica

## CONTACTS

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PREREQUISITES: Previous knowledge and competence in the following subjects:

Human Anatomy1, Human Anatomy 2, Histology and Embryology, Physiology and Pathophysiology, General Pathology and Pathophysiology, Biology and Genetics, Biochemistry and Molecular Biology.

The specific learning outcomes of the program are coherent with the general provisions of the Bologna Process and the specific provisions of EC Directive 2005/36/EC. They lie within the European Qualifications Framework (Dublin Descriptors) as follows:

### 1. Knowledge and Understanding

- Assess the physiologic principles, which govern the function of the main body systems and the alterations induced by functional and structural abnormalities.
- Describe the main aspects of general pathology and explain the pathophysiologic mechanisms underlying the concept of benign and malignant disorders as well as reversible and irreversible damage.
- Present each topic in a detailed manner with a focus on gross examination, microscopic aspects, classification, clinical presentation, staging and prognosis.
- Analyze and describe each pathology in relation to the specific organ involved and to a more systematic view.
- Demonstrate knowledge about established and evolving medicine, being aware of the usefulness of an up-dated education.
- Learn to interpret appropriate laboratory and diagnostic studies.

### 2. Applying Knowledge and Understanding

- Observe the dissection of gross surgical specimens and follow them through to final microscopic diagnosis.
- Participate in the study or discussion of slides via four-headed microscope and attend any hospital-based autopsies performed during the time he/she is on the Anatomic Pathology Rotation; discuss the findings of the case with the resident and staff pathologists responsible for the individual cases, and make important contributions to the interpretation of the findings. Many excellent microscopic study sets are readily available for personal study.

- Provide a differential diagnosis based on specific macroscopic and microscopic examination, also taking into consideration the clinical data.
- Learn the practical aspects of the pathologic diagnostic instruments, when to use them and how to perform them.

3. **Making Judgements**

- Recognize the importance of an in-depth knowledge of the topics consistent with a proper medical education.
- Identify the benefits and adverse effects of any diagnostic and therapeutic interventions.

4. **Communication Skills**

- Present the topics orally in an organized and consistent manner.
- Use of proper scientific language coherent with the topic of discussion.

5. **Learning Skills**

- Identify the possible use of the acknowledged skills in the future career.
- Assess the importance of the acquired knowledge in the overall medical education process.