



# UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Biomedicina, Neuroscienze e Diagnostica avanzata		
ACADEMIC YEAR	2023/2024		
MASTER'S DEGREE (MSC)	MEDICINE AND SURGERY		
INTEGRATED COURSE	PATHOLOGICAL ANATOMY - INTEGRATED COURSE		
CODE	09747		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	MED/08		
HEAD PROFESSOR(S)	CABIBI DANIELA	Professore Ordinario	Univ. di PALERMO
	FLORENA ADA MARIA	Professore Ordinario	Univ. di PALERMO
	TRIPODO CLAUDIO	Professore Ordinario	Univ. di PALERMO
OTHER PROFESSOR(S)	BELMONTE BEATRICE	Ricercatore a tempo determinato	Univ. di PALERMO
	CABIBI DANIELA	Professore Ordinario	Univ. di PALERMO
	FLORENA ADA MARIA	Professore Ordinario	Univ. di PALERMO
	RODOLICO VITO	Professore Associato	Univ. di PALERMO
	MARTORANA ANNA	Ricercatore	Univ. di PALERMO
	TRIPODO CLAUDIO	Professore Ordinario	Univ. di PALERMO
CREDITS	12		
PROPAEDEUTICAL SUBJECTS	13246 - SYSTEMATIC PATHOLOGY I - INTEGRATED COURSE 13248 - SYSTEMATIC PATHOLOGY II - INTEGRATED COURSE 13257 - SYSTEMATIC PATHOLOGY IV - INTEGRATED COURSE 13253 - SYSTEMATIC PATHOLOGY III - INTEGRATED COURSE		
MUTUALIZATION			
YEAR	5		
TERM (SEMESTER)	Annual		
ATTENDANCE	Mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	<p><b>BELMONTE BEATRICE</b> Monday 12:30 14:00 Edificio 11, Cefpass, Caltanissetta</p> <p><b>CABIBI DANIELA</b> Monday 14:00 15:00 Dipartimento PROMISE, Sez. Anatomia Patologica , 1 piano, Via del vespro 129</p> <p><b>FLORENA ADA MARIA</b> Monday 9:00 11:00 Anatomia Patologica 1° piano Wednesday 9:00 11:00 Anatomia Patologica 1° piano</p> <p><b>MARTORANA ANNA</b> Monday 12:00 13:00 1 piano, Istituto di Anatomia Patologica, AUOP Giaccone, Palermo Wednesday 13:00 14:00 Edificio n 11, CEFPAS, Caltanissetta.</p> <p><b>RODOLICO VITO</b> Tuesday 09:00 10:00 Campus Policlinico Universitario A.O.U.P. Via Del Vespro, 131 - Servizio di Anatomia Patologica, Edificio 9B, I piano. Per giorni e/o orari differenti, contattare il docente tramite email <a href="mailto:vito.rodolico@community.unipa.it">vito.rodolico@community.unipa.it</a></p> <p><b>TRIPODO CLAUDIO</b> Monday 10:00 14:00 Anatomia Patologica, Policlinico Universitario Paolo Giaccone, Piano Primo. Friday 13:00 14:00 CEFPAS, Edificio 11, Caltanissetta (Sede delle lezioni frontali di Anatomia Patologica).</p>		

**DOCENTE:** Prof. CLAUDIO TRIPODO- Sede *HYPATIA*

<b>PREREQUISITES</b>	Propedeutical subjects: all subjects of the first three years.
<b>LEARNING OUTCOMES</b>	<p>Learning outcomes:</p> <p>Knowledge of the main pathological pictures, and the relative cell, tissue and organ lesions along with their development with reference to the most significant diseases; Comprehension of the role played by the pathologist in the clinical diagnostic process and patient management; Ability to integrate the acquired knowledge to a critical approach to diagnosis and therapeutic strategies, proving to be able to make personal judgments to solve analytical problems, develop a research-oriented attitude and be able to independently research scientific information; Ability to critically analyse and interpret the histopathological report facilitating understanding to patients.</p>
<b>ASSESSMENT METHODS</b>	<p>Oral exam (the student takes the exam with each of the members of the commission generally composed of the two teachers holding the two modules or supplemented by one of the teachers indicated as additional members in the exam calendar; usually the exam consists of three questions and the final grade reflects the average of each teacher's assessment).</p> <p>Voting:</p> <p>18 to 20 basic knowledge sufficient  from 21 to 24 discrete articulated knowledge  25 to 27 excellent detailed knowledge  28 to 30 excellent in-depth knowledge  <a href="http://www.unipa.it/scuole/dimedicinaechirurgia">http://www.unipa.it/scuole/dimedicinaechirurgia</a></p>
<b>TEACHING METHODS</b>	Frontal teaching, laboratory practice (including surgical specimen sampling and autoptic investigation), microscopy.

**DOCENTE:** Prof.ssa ADA MARIA FLORENA- Sede *CHIRONE*

<b>PREREQUISITES</b>	PROPAEDEUTICAL SUBJECTS All subjects of the first three years
<b>LEARNING OUTCOMES</b>	<p>Knowledge of the main pathological pictures, and the relative cell, tissue and organ lesions along with their development with reference to the most significant diseases.</p> <p>Comprehension of the role played by the pathologist in the clinical diagnostic process and patient management.</p> <p>ability to integrate the acquired knowledge to a critical approach to diagnosis and therapeutic strategies, proving to be able to make personal judgments to solve analytical problems, develop a research-oriented attitude and be able to independently research scientific information;</p> <p>Ability to critically analyse and interpret the histopathological report facilitating understanding to patients;</p>
<b>ASSESSMENT METHODS</b>	<p>EVALUATION METHODS Oral test,</p> <p>EVALUATION Out of 30</p> <p>from 18 to 20 sufficient  from 21 to 24 good  from 25 to 27 very good  from 28 to 30 excellent  <a href="http://www.unipa.it/scuole/dimedicinaechirurgia">http://www.unipa.it/scuole/dimedicinaechirurgia</a></p>
<b>TEACHING METHODS</b>	<p>Frontal teaching, Laboratory practice, Microscope activity</p> <p>N.B. Given the division in two-semester of the Integrated Course and being the teachers pertaining to the same SSD (MED / 08), the schedule of lessons of each teacher is distributed in both semesters.</p>

**DOCENTE:** Prof.ssa DANIELA CABIBI- Sede *IPPOCRATE*

<b>PREREQUISITES</b>	Having taken all the exams of the first three years.
<b>LEARNING OUTCOMES</b>	Knowledge of the main pathological pictures, and the relative cell, tissue and organ lesions along with their development with reference to the most significant diseases; Comprehension of the role played by the pathologist in the clinical diagnostic process and patient management; Ability to integrate the acquired knowledge to a critical approach to diagnosis and therapeutic strategies, proving to be able to make personal judgments to solve analytical problems, develop a research-oriented attitude and be able to independently research scientific information; Ability to critically analyse and interpret the histopathological report facilitating understanding to patients.
<b>ASSESSMENT METHODS</b>	Oral exam (the student takes the exam with each of the members of the commission generally composed of the two teachers holding the two modules or supplemented by one of the teachers indicated as additional members in the exam calendar; usually the exam consists of three questions and the final grade reflects the average of each teacher's assessment). Voting: 18 to 20 basic knowledge sufficient from 21 to 24 discrete articulated knowledge 15 to 27 excellent detailed knowledge 28 to 30 excellent in-depth knowledge <a href="http://www.unipa.it/scuolre/dimedicinaechirurgia">http://www.unipa.it/scuolre/dimedicinaechirurgia</a>
<b>TEACHING METHODS</b>	Lectures, training in the laboratory, in the sector room and under the microscope.

## MODULE PATHOLOGICAL ANATOMY I

*Prof. CLAUDIO TRIPODO - Sede HYPATIA, - Sede HYPATIA*

### SUGGESTED BIBLIOGRAPHY

Anatomia patologica - La sistematica - di Gallo, D'Amati, Della Rocca - EDRA 2018  
RUBIN - Patologia Generale e Anatomia Patologica - PICCIN 2019 Robbins e Cotran. Le basi patologiche delle malattie – Edizione 10 - 2 Volumi EAN: 9788821455629 ISBN: 8821455629 - Editore Edra SpA

<b>AMBIT</b>	50412-Discipline anatomo-patologiche e correlazioni anatomo-cliniche
<b>INDIVIDUAL STUDY (Hrs)</b>	90
<b>COURSE ACTIVITY (Hrs)</b>	60

### EDUCATIONAL OBJECTIVES OF THE MODULE

Knowledge of the main pathological pictures, and the relative cell, tissue and organ lesions along with their development with reference to the most significant diseases. Comprehension of the role played by the pathologist in the clinical diagnostic process and patient management. Ability to integrate the acquired knowledge to a critical approach to diagnosis and therapeutic strategies, proving to be able to make personal judgments to solve analytical problems, develop a research-oriented attitude and be able to independently research scientific information. Ability to critically analyse and interpret the histopathological report facilitating understanding to patients.

## SYLLABUS

Hrs	Frontal teaching
5	Diagnostic methodologies and techniques The histological exam form (30 minutes) Different types of biopsy Collaboration between the clinician and the pathologist Tissue staining techniques Immunohistochemistry Molecular biology applied to pathology Molecular biology and tumor targeted therapy Brush, squash and fine-needle aspiration cytology Intraoperative examination: aims, methodology and limits
18	Digestive system: Neoplasms of salivary glands Esophagitis Esophageal carcinoma Chronic gastritis, acute peptic ulceration and role of the endoscopic biopsy Neoplastic disease of the stomach (epithelial, stromal, lymphoma), diagnostic markers and therapy Enteritis Malabsorptive diseases and role of endoscopic biopsy Celiac disease Ischemic bowel disease Inflammatory bowel disease and role of endoscopic biopsy Diverticular disease and complication Polyps: non-neoplastic, neoplastic and adenoma-carcinoma progression Bowel malignant tumors: staging and role of biopsy Acute and chronic pancreatitis and complications Pancreatic carcinoma: tumor progression and histopathologic patterns Acute and chronic hepatitis: role of liver biopsy, special stain techniques Alcoholic liver disease Cirrhosis: etiology and pathogenesis Primary biliary cirrhosis, primary sclerosing cholangitis and inherited metabolic diseases Liver and intrahepatic bile ducts tumors and hepatic metastasis Cholecystitis, gallbladder and extrahepatic biliary tract tumors
14	Hematopoietic and lymphoid system: Lymphadenomegaly: etiology and pathogenesis, role of nodal biopsy Monoclonal Diagnostic role of bone marrow biopsy Neoplastic disease of the hematopoietic and lymphoid system Lymphoid neoplastic proliferations: prognosis, therapy, immunologic and molecular features Myeloid neoplastic proliferations: prognostic and diagnostic markers Myeloproliferative neoplasms: diagnostic, prognostic and therapeutic markers. Immunoproliferative disorders: morphological and phenotypic features and prognostic and therapeutic characteristics. Monoclonal gammopathy and progression to multiple myeloma Anemia: secondary organ damage Thymus neoplasms Splenomegaly

7	<p>Endocrine system:</p> <p>Hyperpituitarism and hypopituitarism</p> <p>Pituitary neoplasms</p> <p>Hyperthyroidism and hypothyroidism</p> <p>Chronic thyroiditis</p> <p>Thyroid neoplasms and role of fine-needle aspiration cytology</p> <p>Hyperparathyroidism and hypoparathyroidism</p> <p>Pancreatic endocrine tumors</p> <p>Adrenal insufficiency</p> <p>Adrenocortical hyperfunction</p> <p>Adrenocortical and adrenal medulla neoplasms</p>
4	<p>Diseases of the immune system:</p> <p>Autoimmune diseases</p> <p>Rejection of transplants: organ and tissue damage</p> <p>Organ and tissue damage in autoimmune disease</p>
8	<p>Nervous system</p> <p>Morphological pictures of cerebrovasculare disorders: haematomas, haemorrhages, infarction</p> <p>Morphological pictures correlated to the etiopathogenesis of infectious disease of the meninges, brain and spinal cord</p> <p>Hydrocephalus</p> <p>Demyelinating diseases</p> <p>Anatomo-clinical correlations and histopathological features of the main neurodegenerative diseases</p> <p>Classification of CNS tumors with reference to histopathological features, staging and significance of molecular markers in tumor progression: role and limits of stereotactic biopsy</p>
4	<p>Bones, muscle and soft tissues, Tumors of the fibrous-muscular tissue, Tumors and similar lesions of the fibrohistiocytic tissue, Tumors of the skeletal muscle tissue, Tumors of the smooth, Synovial sarcoma.</p>

## MODULE PATHOLOGICAL ANATOMY I

*Prof. VITO RODOLICO - Sede CHIRONE, - Sede CHIRONE*

### SUGGESTED BIBLIOGRAPHY

Robbins e Cotran. Le basi patologiche delle malattie - 2 Volumi ISBN-13 978-8821454653 Editore Edra SpA  
David S. Strayer, Emanuel Rubin, e al Patologia generale. Anatomia patologica ISBN-13978-8829929108 Editore Piccin-Nuova Libreria  
Gallo d'Amati. Anatomia patologica. La sistematica (Vol 1 + Vol 2) ISBN-13 978-8821444777 Editore Edra SpA  
Testo delle presentazioni Power Point

<b>AMBIT</b>	50412-Discipline anatomo-patologiche e correlazioni anatomo-cliniche
<b>INDIVIDUAL STUDY (Hrs)</b>	90
<b>COURSE ACTIVITY (Hrs)</b>	60

### EDUCATIONAL OBJECTIVES OF THE MODULE

- Know the basic concepts of both the pathogenetic mechanisms and morphological substrate, defined as alterations of organs, tissues, cells and sub-cellular structures, main pathological pictures to understand the clinical correlates (anatomical and clinical correlations).
- Knowing the fundamental role of Anatomical Pathology within the clinical decision-making from which springs the cooperation between clinician and pathologist.

Precipui tasks of discipline are:

- Make a diagnosis about the nature of the disease process
- Assess the stage of development of the disease process, defining prognostic parameters, ie the odds' evolutionary lesion
- Direct the therapeutic choices based on the stage of disease, based on parameters predictive of response to specific treatments. Prerequisite for obtaining this training objective is the ability to interpretate the pathologic reports (cytological, histological, molecular biology).
- Know the indications and limitations of some of the pathological examination methods (intraoperative extemporaneous examination; exfoliative cytology, for affixing needle aspiration and fine needle, needle biopsies) as well as diagnostic implications concerning endoscopic biopsies, surgical biopsies, the surgical specimens for staging, the diagnostic examination necropsy: in most cases is sufficient to pathologist observation under the optical microscope, of cytological smears or routinely stained histological sections, to make the diagnosis; in a significant number of cases instead is necessary a supplement to the routine colorations with other diagnostic methods such as special stains, immunohistochemistry and other molecular techniques, electron microscopy and molecular biology techniques.
- Understand the relationship between morphology and clinical as well as the impact that the main disease can have in the various districts of the organism in order to obtained a summary of anatomical clinical as a whole. Prerequisite for this training objective is the frequency of autopsy room to attend to some diagnostic necropsy findings. The necropsy diagnostic examination also provides students with the knowledge of how complex and can be, especially with the advance of the age, pathological profile of the patient.

## SYLLABUS

Hrs	Frontal teaching
6	1. General Pathological Anatomy: Morphological Aspects of Adaptation and Cellular Damage. Morphological features of degenerative alterations Morphological aspects of thrombo-embolic alterations Histologic characteristics of acute and chronic inflammation and outcomes Morphological frameworks of chronic granulomatous flogoses Morphological bases of dysplasia and precancerous lesions Anatomical bases of tumor angiogenesis and tumor progression Cyto-Hematological Neoplasms Anatomy-Clinical Basics of Metastases Micrometastasis Diagnosis: Role of Sentinel Lymph Node Tumor Staging Principles
3	2. Methodologies and Diagnostic Techniques. Anatomy-pathological request. Indications on different types of biopsy. Role of Collaboration between Clinical and Anatomy-Pathologist. Description of the main cytological histology techniques. Role of immunohistochemistry. Principal biomolecular techniques applied to pathological anatomy. Anatomy-pathological applications of bio-molecular techniques with reference to target tumor therapies. Indications and limits of exfoliative cytology, for apposition and needle aspiration. Purpose, methodology and limits of intraoperative examination. Purpose and diagnosis methodology. Preparation of cytological and histological preparations. Compiling a Request for Cytologic Examination. Preparation of cito-histochemical and immunocytochemical preparations. Extraction of DNA from tissue and PCR techniques. Observe macroscopic sampling techniques of organs. Observe histological preparations in the optical microscope.
10	3. Cardio-circulatory system. Morphological pictures of ischemic heart disease and myocardial infarction. Morphological substrates of valvulopathies. Morphological pictures of myocardial hypertrophy and heart failure. Morphological charts of myocarditis and cardiomyopathy (complications and role of endomyocardial biopsy). Morphological picture of endocarditis in relation to different etiopathogenesis. Morphological substrates of cardiac arrhythmias. Overview of cardiac tumors. Anatomical bases of the major congenital heart disease. Pericardial Pathology. Morphology of primary and advanced lesions / complications of atherosclerosis. Pathological anatomy of major vasculitis. Classification and morphological aspects of aneurysms. Morphological charts of circular disorders in the various organs. Morphological alterations of pulmonary circulatory disorders: embolism and pulmonary hypertension.

10	<p>4. Respiratory tract. Flogistic and neoplastic pathology of nasal cavities and rhinopharyngeal cavities. Morphology of pre-neoplastic lesions and laryngeal neoplasms. Pathological anatomy and pathogenesis of: atelectasis, pneumonia, bronchopneumonia, pulmonary abscess, acute bronchitis, bronchiectasis. Morphological pictures of pulmonary tuberculosis in relation to evolutionary stages of infection and outcome. Morphological pictures of chronic obstructive pulmonary pneumopathy (emphysema). Morphological pictures of interstitial lung pathologies in relation to different etiopathogenesis. Morphological pictures of the main pneumoconiosis. Morphological charts of the primitive and metastatic lung tumors, with reference to the elements useful for anatomy-clinic staging, diagnostic role of bronchoscopy with broncho-alveolar wash and bronchial biopsy; Major tumor markers. Morphological charts of pleura diseases with particular reference to mesotheliomas. Cytological charts useful for the diagnosis of pleural fluid preparations.</p>
10	<p>5. Digestive tract. Classification of salivary gland tumors. Morphological pictures of esophagitis. Morphological pictures and complications of esophagus carcinoma. Morphological chapters of chronic gastritis and peptic ulcer and role of endoscopic biopsy. Anatomic clinical trials of gastric cancer and the role of endoscopic biopsy. Istogenetic and differential diagnosis of gastric cancer (epithelial, stromal, lymphoproliferative) with reference to diagnostic markers and major therapeutic applications. Morphological pictures of the main entites. General framing and morphological cadres of malabsorption syndromes: role of endoscopic biopsy Morphological framework, histopathological diagnostic parameters and complications of celiac disease. Morphological pictures of the ischemic pathology of the intestine. Morphological characteristics of chronic inflammatory bowel disease and complications: role of endoscopic biopsy Morphological basics of diverticular disease and complications. Neoplastic and adenomatotic intestinal polyps with specific reference to familial polyposis and adenoma-carcinoma progression. Malignant intestine tumors: criteria for anatomic-clinical staging and diagnostic and prognostic role of biopsy Anatomy-pathology of acute and chronic pancreatitis and complications. Morphological pictures of esophageal pancreatic neoplasia. Tumor progression and histopathological frameworks of exocrine pancreatic adenocarcinoma. Morphological pictures of acute and chronic hepatitis: diagnostic and prognostic role of liver biopsy and major coloring techniques Histopathology of alcoholic epathopathy with particular reference to evolutionary stages. Morphological pictures and histopathological alterations of liver cirrhosis in reference to the different etiopathogenetic mechanisms. General framing and major morphological frameworks of biliary cirrhosis, sclerosing colangitis and genetically-based hepatopathies. Morphological pictures of hepatocellular carcinomas and liver metastases. Natural history, morphological frameworks and complications of cholecystitis, gallbladder tumors and extraepathic biliary pathways.</p>
7	<p>6. Urinary system Natural history and morphological pictures of the main nephro-urological congenital anomalies Main morphological pictures and complications of: tubulopathies, interstitial nephritis, toxic and drug-related nephropathies Morphological pictures of primary and secondary glomerulopathies and diagnostic role of renal biopsy Morphological and immunopathological bases of glomerular and principles of classification Morphological pictures of kidney tumors with reference to the elements useful for the classification and anatomo-clinical staging Notes on the main embryonic neoplasms of the kidney Non-neoplastic pathology of the bladder and urinary tract Morphological pictures of bladder carcinoma, with reference to the history natural and staging, and the role of cytological and histological findings using cystoscopy</p>
6	<p>7. Male genital system Morphological pictures of prostatic hypertrophy and prostatitis with reference to Complications Pathological anatomy of prostate cancer with reference to histological pictures in relation to prognosis, natural history and diffusion Histogenetic classification of testicular neoplasms Morphological pictures of testicular and epididymis and main prognostic markers Notes on orcs epididymitis Notes on the anatomical-pathological pictures of the pathology of the penis</p>
8	<p>8. Female reproductive system Main developmental problems of gynecological tumors from the anatomo-pathological point of view Morphological characteristics of the inflammatory pathology of the vulva, vagina and uterine cervix Tumor progression of exocervical neoplasms (Cervical Intraepithelial Neoplasia): role of exfoliative cytology Neoplasms of the uterine cervix (exo - and endocervix) Morphological pictures of the inflammatory and dysfunctional pathology of the endometrium Anatomo-pathological pictures of endometriosis in the different organs Polypoid lesions of the cervix and body of the uterus Morphological pictures of endometrial carcinoma in relation to the natural history Morphological characteristics of the non-epithelial neoplasms of the uterus Classification, classification, natural history and morphological pictures of ovarian tumors. General information on the pathology of the placenta: vesicular mola, chorio carcinoma.</p>

## MODULE PATHOLOGICAL ANATOMY II

*Prof.ssa ADA MARIA FLORENA - Sede CHIRONE, - Sede CHIRONE*

### SUGGESTED BIBLIOGRAPHY

Robbins e Cotran. Le basi patologiche delle malattie - 2 Volumi ISBN-13 978-8821454653 Editore Edra SpA  
David S. Strayer, Emanuel Rubin, e al Patologia generale. Anatomia patologica ISBN-13 978-8829929108  
Editore Piccin-Nuova Libreria  
Gallo d'Amati. Anatomia patologica. La sistematica (Vol 1 + Vol 2) ISBN-13 978-8821444777 Editore Edra SpA

<b>AMBIT</b>	50412-Discipline anatomo-patologiche e correlazioni anatomo-cliniche
<b>INDIVIDUAL STUDY (Hrs)</b>	90
<b>COURSE ACTIVITY (Hrs)</b>	60

### EDUCATIONAL OBJECTIVES OF THE MODULE

- Know the basic concepts of both the pathogenetic mechanisms and morphological substrate, defined as alterations of organs, tissues, cells and sub-cellular structures, main pathological pictures to understand the clinical correlates (anatomical and clinical correlations).
- Knowing the fundamental role of Anatomical Pathology within the clinical decision-making from which springs the cooperation between clinician and pathologist.

Precipui tasks of discipline are:

- Make a diagnosis about the nature of the disease process
- Assess the stage of development of the disease process, defining prognostic parameters, ie the odds' evolutionary lesion
- Direct the therapeutic choices based on the stage of disease, based on parameters predictive of response to specific treatments. Prerequisite for obtaining this training objective is the ability to interpretate the pathologic reports (cytological, histological, molecular biology).
- Know the indications and limitations of some of the pathological examination methods (intraoperative extemporaneous examination; exfoliative cytology, for affixing needle aspiration and fine needle, needle biopsies) as well as diagnostic implications concerning endoscopic biopsies, surgical biopsies, the surgical specimens for staging, the diagnostic examination necropsy: in most cases is sufficient to pathologist observation under the optical microscope, of cytological smears or routinely stained histological sections, to make the diagnosis; in a significant number of cases instead is necessary a supplement to the routine colorations with other diagnostic methods such as special stains, immunohistochemistry and other molecular techniques, electron microscopy and molecular biology techniques.
- Understand the relationship between morphology and clinical as well as the impact that the main disease can have in the various districts of the organism in order to obtained a summary of anatomical clinical as a whole. Prerequisite for this training objective is the frequency of autopsy room to attend to some diagnostic necropsy findings. The necropsy diagnostic examination also provides students with the knowledge of how complex and can be, especially with the advance of the age, pathological profile of the patient.

## SYLLABUS

Hrs	Frontal teaching
7	. Endocrine system: Hyperpituitarism and hypopituitarism Pituitary neoplasms Hyperthyroidism and hypothyroidism Chronic thyroiditis Thyroid neoplasms and role of fine-needle aspiration cytology Hyperparathyroidism and hypoparathyroidism Pancreatic endocrine tumors Adrenal insufficiency Adrenocortical hyperfunction Adrenocortical and adrenal medulla neoplasms
7	Central Nervous System Morphological pictures of cerebral circulation disorders: hematomas, haemorrhages, infarct Morphological pictures in relation to the etiopathogenesis of the infectious pathology of the meninges, brain and spinal cord Morphological picture of hydrocephalus and anatomical-clinical correlations and morphological pictures of demyelinating diseases Anatomical-clinical correlations and morphological pictures of the main neurodegenerative diseases Classification of SMC tumors with reference to morphological pictures, staging and the significance of molecular markers in tumor progression: role and limits of stereotaxic biopsy
4	Locomotor system Classification and differential diagnosis of primary and metastatic skeletal tumors: anatomo-radiological correlations and histopathological pictures Morphologic pictures of osteomyelitis in relation to the different etiopathogenesis Morphological pictures of the main metabolic bone pathologies General picture of soft tissue tumors with particular reference to histogenesis and description of the morphological pictures of the main sarcomas
5	Diseases of the immune system: Autoimmune diseases Rejection of transplants: organ and tissue damage Organ and tissue damage in autoimmune disease
13	Hematopoietic and lymphoid system: Lymphadenomegaly: etiology and pathogenesis, role of nodal biopsy Monoclonal Diagnostic role of bone marrow biopsy Neoplastic disease of the hematopoietic and lymphoid system Lymphoid neoplastic proliferations: prognosis, therapy, immunologic and molecular features Myeloid neoplastic proliferations: prognostic and diagnostic markers Myeloproliferative neoplasms: diagnostic, prognostic and therapeutic markers. Immunoproliferative disorders: morphological and phenotypic features and prognostic and therapeutic characteristics. Monoclonal gammopathy and progression to multiple myeloma Anemia: secondary organ damage Thymus neoplasms Splenomegaly



8	Breast: Non-neoplastic diseases of the breast: diagnostic algorithm of the mammary nodule and FNA biopsy Benign and malignant neoplasms of the breast: natural history, progression and complications, morphological patterns, stadiation and prognostic role of hormonal receptors expression and other molecular markes
6	Skin Skin tumors Melanocytic lesions and progression to melanoma Melanoma: natural history, morphological features and staging
6	General Pathological Anatomy: Morphological Aspects of Adaptation and Cellular Damage. Morphological features of degenerative alterations Morphological aspects of thrombo-embolic alterations Histologic characteristics of acute and chronic inflammation and outcomes Morphological frameworks of chronic granulomatous flogoses Morphological bases of dysplasia and precancerous lesions Anatomical bases of tumor angiogenesis and tumor progression Cyto-Hematological Neoplasms Anatomy-Clinical Basics of Metastases Micrometastasis Diagnosis: Role of Sentinel Lymph Node Tumor Staging Principles Purpose and methodology of the autopsy
4	Methodologies and Diagnostic Techniques. Anatomy-pathological request. Indications on different types of biopsy. Role of Collaboration between Clinical and Anatomy-Pathologist. Description of the main cytological histology techniques. Role of immunohistochemistry. Principal biomolecular techniques applied to pathological anatomy. Anatomy-pathological applications of bio-molecular techniques with reference to target tumor therapies. Indications and limits of exfoliative cytology, for apposition and needle aspiration. Purpose, methodology and limits of intraoperative examination. Purpose and diagnosis methodology. Preparation of cytological and histological preparations. Compiling a Request for Cytologic Examination. Preparation of cito-histochemical and immunocytochemical preparations. Extraction of DNA from tissue and PCR techniques. Observe macroscopic sampling techniques of organs. Observe histological preparations in the optical microscope.

## MODULE PATHOLOGICAL ANATOMY I

*Prof.ssa ANNA MARTORANA - Sede IPPOCRATE, - Sede IPPOCRATE*

### SUGGESTED BIBLIOGRAPHY

RUBIN - Patologia Generale e Anatomia Patologica - PICCIN 2019  
ROBBINS E COTRAN - Le Basi Patologiche delle Malattie - Test di Autovalutazione - ELSEVIER MASSON 2011  
GALLO D'AMATI - Anatomia patologica. La sistematica (Vol 1 + Vol 2) ISBN-13 978-8821444777 Editore Edra SpA

<b>AMBIT</b>	50412-Discipline anatomo-patologiche e correlazioni anatomo-cliniche
<b>INDIVIDUAL STUDY (Hrs)</b>	90
<b>COURSE ACTIVITY (Hrs)</b>	60

### EDUCATIONAL OBJECTIVES OF THE MODULE

Knowledge of the main pathological pictures, and the relative cell, tissue and organ lesions along with their development with reference to the most significant diseases. Comprehension of the role played by the pathologist in the clinical diagnostic process and patient management. Ability to integrate the acquired knowledge to a critical approach to diagnosis and therapeutic strategies, proving to be able to make personal judgments to solve analytical problems, develop a research-oriented attitude and be able to independently research scientific information. Ability to critically analyse and interpret the histopathological report facilitating understanding to patients.

## SYLLABUS

Hrs	Frontal teaching
6	General Pathological Anatomy: Morphological Aspects of Adaptation and Cellular Damage. Morphological features of degenerative alterations Morphological aspects of thrombo-embolic alterations Histologic characteristics of acute and chronic inflammation and outcomes Morphological frameworks of chronic granulomatous flogoses Morphological bases of dysplasia and precancerous lesions Anatomical bases of tumor angiogenesis and tumor progression Cyto- Hematological Neoplasms Anatomy-Clinical Basics of Metastases Micrometastasis Diagnosis: Role of Sentinel Lymph Node Tumor Staging Principles Purpose and methodology of the autopsy
4	Methodologies and Diagnostic Techniques. Anatomy-pathological request. Indications on different types of biopsy. Role of Collaboration between Clinical and Anatomy-Pathologist. Description of the main cytological histology techniques. Role of immunohistochemistry. Principal biomolecular techniques applied to pathological anatomy. Anatomy-pathological applications of bio-molecular techniques with reference to target tumor therapies. Indications and limits of exfoliative cytology, for apposition and needle aspiration. Purpose, methodology and limits of intraoperative examination. Purpose and diagnosis methodology. Preparation of cytological and histological preparations. Compiling a Request for Cytologic Examination. Preparation of cito-histochemical and immunocytochemical preparations. Extraction of DNA from tissue and PCR techniques. Observe macroscopic sampling techniques of organs. Observe histological preparations in the optical microscope.
8	Urinary system Natural history and morphological pictures of the main nephro-urological congenital anomalies Main morphological pictures and complications of: tubulopathies, interstitial nephritis, toxic and drug-related nephropathies Morphological pictures of primary and secondary glomerulopathies and diagnostic role of renal biopsy Morphological and immunopathological bases of glomerular and principles of classification Morphological pictures of kidney tumors with reference to the elements useful for the classification and anatomo-clinical staging Notes on the main embryonic neoplasms of the kidney Non-neoplastic pathology of the bladder and urinary tract Morphological pictures of bladder carcinoma, with reference to the history natural and staging, and the role of cytological and histological findings using cystoscopy
7	Male genital system Morphological pictures of prostatic hypertrophy and prostatitis with reference to Complications Pathological anatomy of prostate cancer with reference to histological pictures in relation to prognosis, natural history and diffusion Histogenetic classification of testicular neoplasms Morphological pictures of testicular and epididymis and main prognostic markers Notes on orcs epididymitis Notes on the anatomical-pathological pictures of the pathology of the penis

10	Female reproductive system Main developmental problems of gynecological tumors from the anatomo-pathological point of view Morphological characteristics of the inflammatory pathology of the vulva, vagina and uterine cervix Tumor progression of exocervical neoplasms (Cervical Intraepithelial Neoplasia): role of exfoliative cytology Neoplasms of the uterine cervix (exo - and endocervix) Morphological pictures of the inflammatory and dysfunctional pathology of the endometrium Anatomopathological pictures of endometriosis in the different organs Polypoid lesions of the cervix and body of the uterus Morphological pictures of endometrial carcinoma in relation to the natural history Morphological characteristics of the non-epithelial neoplasms of the uterus Classification, classification, natural history and morphological pictures of ovarian tumors. General information on the pathology of the placenta: vesicular mola, chorio carcinoma.
8	Breast: Non-neoplastic diseases of the breast: diagnostic algorithm of the mammary nodule and FNA biopsy Benign and malignant neoplasms of the breast: natural history, progression and complications, morphological patterns, stadiation and prognostic role of hormonal receptors expression and other molecular marks
7	Central Nervous System Morphological pictures of cerebral circulation disorders: hematomas, haemorrhages, infarct Morphological pictures in relation to the etiopathogenesis of the infectious pathology of the meninges, brain and spinal cord Morphological picture of hydrocephalus and anatomical-clinical correlations and morphological pictures of demyelinating diseases Anatomico-clinical correlations and morphological pictures of the main neurodegenerative diseases Classification of SMC tumors with reference to morphological pictures, staging and the significance of molecular markers in tumor progression: role and limits of stereotaxic biopsy
6	Skin Skin tumors Melanocytic lesions and progression to melanoma Melanoma: natural history, morphological features and staging
4	Locomotor system Classification and differential diagnosis of primary and metastatic skeletal tumors: anatomo-radiological correlations and histopathological pictures Morphologic pictures of osteomyelitis in relation to the different etiopathogenesis Morphological pictures of the main metabolic bone pathologies General picture of soft tissue tumors with particular reference to histogenesis and description of the morphological pictures of the main sarcomas

## MODULE PATHOLOGICAL ANATOMY II

*Prof.ssa BEATRICE BELMONTE - Sede HYPATIA, - Sede HYPATIA*

### SUGGESTED BIBLIOGRAPHY

Anatomia patologica - La sistematica - di Gallo, D'Amati, Della Rocca - EDRA 2018  
 RUBIN - Patologia Generale e Anatomia Patologica - PICCIN 2019  
 Robbins e Cotran. Le basi patologiche delle malattie – Edizione 10 - 2 Volumi EAN: 9788821455629 ISBN: 8821455629 - Editore Edra SpA

<b>AMBIT</b>	50412-Discipline anatomo-patologiche e correlazioni anatomo-cliniche
<b>INDIVIDUAL STUDY (Hrs)</b>	90
<b>COURSE ACTIVITY (Hrs)</b>	60

### EDUCATIONAL OBJECTIVES OF THE MODULE

Knowledge of the main pathological pictures, and the relative cell, tissue and organ lesions along with their development with reference to the most significant diseases. Comprehension of the role played by the pathologist in the clinical diagnostic process and patient management. Ability to integrate the acquired knowledge to a critical approach to diagnosis and therapeutic strategies, proving to be able to make personal judgments to solve analytical problems, develop a research-oriented attitude and be able to independently research scientific information. Ability to critically analyse and interpret the histopathological report facilitating understanding to patients.

## SYLLABUS

Hrs	Frontal teaching
10	General Pathology 10 hours Cell injury and adaptations Thromboembolism Inflammation and Repair Granulomatous inflammations Displasia and precancerous lesions Carcinogenesis and tumor progression Morphological features of neoplasia Metastases Diagnosis of micrometastases: role of the "Sentinel Lymphnode" Tumor staging Aims and methods of autopsy
9	Respiratory tract Nasal cavity and nasopharynx: inflammatory and neoplastic diseases Larynx: premalignant lesions and tumors Lung non-neoplastic lesions: atelectasis, pneumonias, bronchopneumonia, abscesses, acute bronchitis, bronchiectasis Morphological patterns, evolution and clinical outcomes of pulmonary tuberculosis Obstructive lung diseases (emphysema) Different etiologies and pathophysiology of interstitial lung diseases Morphological features of pneumoconioses Primitive and metastatic lung tumors, stadiation and diagnostic role of bronchoscopic alveolar lavage and transbronchial biopsy Pleural diseases and mesothelioma
5	Cardiovascular system Ischemic heart disease and myocardial infarction Valvular heart disease Hypertrophic cardiomyopathy and heart failure Myocarditis and cardiomyopathies (complications and role of the endomyocardial biopsy) Cardiac arrhythmias: morphological patterns Cardiac tumors Congenital heart diseases Atherosclerosis: elementary and complicated lesions Vasculitis Aneurysms: classification and morphologic features (20 minutes) Embolism and pulmonary hypertension
10	Urinary system Congenital anomalies of the urinary system: natural history and morphological patterns Diseases affecting tubules and interstitium: tubule-interstitial nephritis, acute tubular injury and drug-induced interstitial nephritis Glomerular diseases and diagnostic role of renal biopsy Morphologic features, immunopathology and classification of glomerular diseases Kidney tumors: classification and stadiation Embryonal kidney tumors Bladder and urinary tract non-neoplastic disease Bladder malignant neoplasm: stadiation and role of cytology and biopsy

6	Male genital system Prostatitis, benign prostatic hyperplasia and complications Carcinoma of the prostate: natural history, morphological patterns, spread and prognosis Testicular neoplasms: classification Testicular and epididymis neoplasms: morphological patterns and prognostic markers Epididymitis and orchitis Penis diseases
14	Female genital system and breast Vulvitis, vaginitis and cervicitis Cervical intraepithelial neoplasia (CIN) and cytologic features (pap test) Neoplasia of the cervix (eso- and endocervix) Endometritis Endometriosis Endocervical and endometrial polyps Endometrial carcinoma Non-epithelial tumors of the uterus Tumors of the ovary: classification, natural history and morphological patterns Placental diseases: hydatidiform mole and choriocarcinoma Non-neoplastic diseases of the breast: diagnostic algorithm of the mammary nodule and FNA biopsy Benign and malignant neoplasms of the breast: natural history, progression and complications, morphological patterns, stadiation and prognostic role of hormonal receptors expression and other molecular markes
6	Skin Skin tumors Melanocytic lesions and progression to melanoma Melanoma: natural history, morphological features and staging

## MODULE PATHOLOGICAL ANATOMY II

*Prof.ssa DANIELA CABIBI - Sede IPPOCRATE, - Sede IPPOCRATE*

### SUGGESTED BIBLIOGRAPHY

Robbins e Cotran. Le basi patologiche delle malattie - 2 Volumi ISBN-13 978-8821454653 Editore Edra SpA  
David S. Strayer, Emanuel Rubin, e al Patologia generale. Anatomia patologica ISBN-13 978-8829929108  
Editore Piccin-Nuova Libreria  
Gallo d'Amati. Anatomia patologica. La sistematica (Vol 1 + Vol 2) ISBN-13 978-8821444777 Editore Edra SpA

<b>AMBIT</b>	50412-Discipline anatomo-patologiche e correlazioni anatomo-cliniche
<b>INDIVIDUAL STUDY (Hrs)</b>	90
<b>COURSE ACTIVITY (Hrs)</b>	60

### EDUCATIONAL OBJECTIVES OF THE MODULE

- Know the basic concepts of both the pathogenetic mechanisms and morphological substrate, defined as alterations of organs, tissues, cells and sub-cellular structures, main pathological pictures to understand the clinical correlates (anatomical and clinical correlations).
- Knowing the fundamental role of Anatomical Pathology within the clinical decision-making from which springs the cooperation between clinician and pathologist.

Precipui tasks of discipline are:

- Make a diagnosis about the nature of the disease process
- Assess the stage of development of the disease process, defining prognostic parameters, ie the odds' evolutionary lesion
- Direct the therapeutic choices based on the stage of disease, based on parameters predictive of response to specific treatments. Prerequisite for obtaining this training objective is the ability to interpretate the pathologic reports (cytological, histological, molecular biology).
- Know the indications and limitations of some of the pathological examination methods (intraoperative extemporaneous examination; exfoliative cytology, for affixing needle aspiration and fine needle, needle biopsies) as well as diagnostic implications concerning endoscopic biopsies, surgical biopsies, the surgical specimens for staging, the diagnostic examination necropsy: in most cases is sufficient to pathologist observation under the optical microscope, of cytological smears or routinely stained histological sections, to make the diagnosis; in a significant number of cases instead is necessary a supplement to the routine colorations with other diagnostic methods such as special stains, immunohistochemistry and other molecular techniques, electron microscopy and molecular biology techniques.
- Understand the relationship between morphology and clinical as well as the impact that the main disease can have in the various districts of the organism in order to obtained a summary of anatomical clinical as a whole. Prerequisite for this training objective is the frequency of autopsy room to attend to some diagnostic necropsy findings. The necropsy diagnostic examination also provides students with the knowledge of how complex and can be, especially with the advance of the age, pathological profile of the patient.

## SYLLABUS

Hrs	Frontal teaching
5	Diagnostic methodologies and techniques The histological exam form (30 minutes) Different types of biopsy Collaboration between the clinician and the pathologist Tissue staining techniques Immunohistochemistry Molecular biology applied to pathology Molecular biology and tumor targeted therapy Brush, squash and fine-needle aspiration cytology Intraoperative examination: aims, methodology and limits
11	Digestive system: Neoplasms of salivary glands Esophagitis Esophageal carcinoma Chronic gastritis, acute peptic ulceration and role of the endoscopic biopsy Neoplastic disease of the stomach (epithelial, stromal, lymphoma), diagnostic markers and therapy Enteritis Malabsorptive diseases and role of endoscopic biopsy Celiac disease Ischemic bowel disease Inflammatory bowel disease and role of endoscopic biopsy Diverticular disease and complication Polyps: non-neoplastic, neoplastic and adeno-carcinoma progression Bowel malignant tumors: staging and role of biopsy Acute and chronic pancreatitis and complications Pancreatic carcinoma: tumor progression and histopathologic patterns Acute and chronic hepatitis: role of liver biopsy, special stain techniques Alcoholic liver disease Cirrhosis: etiology and pathogenesis Primary biliary cirrhosis, primary sclerosing cholangitis and inherited metabolic diseases Liver and intrahepatic bile ducts tumors and hepatic metastasis Cholecystitis, gallbladder and extrahepatic biliary tract tumors
13	Hematopoietic and lymphoid system: Lymphadenomegaly: etiology and pathogenesis, role of nodal biopsy Monoclonal Diagnostic role of bone marrow biopsy Neoplastic disease of the hematopoietic and lymphoid system Lymphoid neoplastic proliferations: prognosis, therapy, immunologic and molecular features Myeloid neoplastic proliferations: prognostic and diagnostic markers Myeloproliferative neoplasms: diagnostic, prognostic and therapeutic markers. Immunoproliferative disorders: morphological and phenotypic features and prognostic and therapeutic characteristics. Monoclonal gammopathy and progression to multiple myeloma Anemia: secondary organ damage Thymus neoplasms Splenomegaly

6	Endocrine system: Hyperpituitarism and hypopituitarism Pituitary neoplasms Hyperthyroidism and hypothyroidism Chronic thyroiditis Thyroid neoplasms and role of fine-needle aspiration cytology Hyperparathyroidism and hypoparathyroidism Pancreatic endocrine tumors Adrenal insufficiency Adrenocortical hyperfunction Adrenocortical and adrenal medulla neoplasms
3	Diseases of the immune system: Autoimmune diseases Rejection of transplants: organ and tissue damage Organ and tissue damage in autoimmune disease
10	Cardiovascular system: Ischemic heart disease and myocardial infarction Valvular heart disease Hypertrophic cardiomyopathy and heart failure Myocarditis and cardiomyopathies (complications and role of the endomyocardial biopsy) Cardiac arrhythmias: morphological patterns Cardiac tumors Congenital heart diseases Atherosclerosis: elementary and complicated lesions Vasculitis Aneurysms: classification and morphologic features Embolism and pulmonary hypertension
2	Bones, muscle and soft tissues, Tumors of the fibrous-muscular tissue, Tumors and similar lesions of the fibrohistiocytic tissue, Tumors of the skeletal muscle tissue, Tumors of the smooth, Synovial sarcoma.
10	Respiratory tract. Flogistic and neoplastic pathology of nasal cavities and rhinopharyngeal cavities. Morphology of pre-neoplastic lesions and laryngeal neoplasms. Pathological anatomy and pathogenesis of: atelectasis, pneumonia, bronchopneumonia, pulmonary abscess, acute bronchitis, bronchiectasis. Morphological pictures of pulmonary tuberculosis in relation to evolutionary stages of infection and outcome. Morphological pictures of chronic obstructive pulmonary pneumopathy (emphysema). Morphological pictures of interstitial lung pathologies in relation to different etiopathogenesis. Morphological pictures of the main pneumoconiosis. Morphological charts of the primitive and metastatic lung tumors, with reference to the elements useful for anatomy-clinic staging, diagnostic role of bronchoscopy with broncho-alveolar wash and bronchial biopsy; Major tumor markers. Morphological charts of pleura diseases with particular reference to mesotheliomas. Cytological charts useful for the diagnosis of pleural fluid preparations