

**III year (2nd semester)
A.Y. 2021-2022**

Scientific Field	SYSTEMIC PATHOLOGY I	TUTOR	ECTS
MED/21	Thoracic Surgery	Pompeo Eugenio	1
MED/10	Lung Diseases	Puxeddu Ermanno	1
MED/10	Lung Diseases	Rogliani Paola	1
MED/22	Vascular Surgery	Ascoli Marchetti	1
MED/11	Heart Diseases	Sangiorgi Giuseppe	1
MED/11	Heart Diseases	Voci Paolo	1
MED/23	Cardiac Surgery	Pisano Calogera	1
MED/23	Cardiac Surgery	Bassano Carlo	1
		TOT	8

**BASSANO C.
COORDINATOR**

SPECIFIC AIMS

Acquisition of adequate knowledge of the most relevant diseases of several apparatuses. Under the nosographic, etiopathogenic, pathophysiologic and clinical profile, in the context of a unified and comprehensive view of Human Pathology and the ability to evaluate critically and correlate their clinical symptoms, the physical signs, the functional disorders seen in humans with pathological lesions, interpreting the production mechanisms and deepening its clinical significance.

PROGRAM	<ul style="list-style-type: none"> - Heart Diseases - Cardiac Surgery - Respiratory Diseases - Thoracic Surgery - Vascular Surgery
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TOPICS	<p>Epidemiology of Cardiovascular Diseases, The History and Physical Examination:</p> <ul style="list-style-type: none"> - Principles of Cardiovascular Genetics and Genomics - Pathophysiology of Heart Failure - Clinical Assessment and Heart Failure - Diagnosis and Management of Acute Heart Failure with Reduced Ejection Fraction and with Normal Ejection Fraction. - Genesis of Cardiac Arrhythmias.
HEART DISEASES	<ul style="list-style-type: none"> - Diagnosis of Cardiac Arrhythmias - Therapy for Cardiac Arrhythmias. - The Vascular Biology of Atherosclerosis. - Risk Factors and the Prevention of Coronary Heart Disease. - Systemic Hypertension: Mechanisms and Diagnosis - Therapy. - Coronary Blood Flow and Myocardial Ischemia - ST-Elevation Myocardial Infarction: Pathology, Pathophysiology, and Clinical Features, Management of Unstable Angina and Non-ST Elevation Myocardial Infarction. - Coronarography and Percutaneous Coronary Intervention - Congenital Heart Disease, Valvular Heart Disease, - Infective Endocarditis, - Cardiomyopathies (Dilated, Restrictive, and Infiltrative, Hypertrophic Cardiomyopathies, Myocarditis). - Pulmonary Embolism, - Pulmonary Hypertension, - Pericardial Diseases.

TOPICS	<ul style="list-style-type: none"> - Cardiac anatomy and terminology. - Cardiopulmonary bypass. - Myocardial protection. - Congenital heart diseases: CHD with flow obstruction, CHD with left-to-right shunt.
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CARDIAC SURGERY

- Ischemic heart disease: Clinical features and diagnostic criteria, Natural history, Techniques of myocardial Revascularization, Indications and results, Mechanical complications of IHD, Left ventricular aneurysm.
- Post-infarction ventricular septum and free wall rupture.
- Post-infarction mitral valve regurgitation.
- Acquired heart valve disease: Morphology, Clinical features and diagnostic criteria, Natural history, Principles of operative Techniques, Indications and results.
- Cardiac rhythm disorders of surgical interest: Bradycardia, Morphology, Clinical features and diagnostic criteria, Natural History, Operative techniques, Indications and results.
- Tachycardia (paroxysmic supraventricular arrhythmias, WPW syndrome), Morphology, Clinical features and diagnostic criteria, Natural History, Operative techniques, Indications and results.
- Cardiac tumors.
- Constrictive pericarditis.
- Primary cardiomyopathies and heart transplantation.
- Thoracic aorta disorders.
- Chronic degenerative aneurysms of the thoracic and thoraco-abdominal aorta.
- Acute aortic dissection.

TOPICS

- Approach to the Patients with disease of the Respiratory System.
- Diagnostic Procedures in Respiratory Disease.
- Respiratory Failure: clinical picture and principles of treatment.
- Obstructive diseases: - Asthma
 - Chronic Obstructive Pulmonary Disease (COPD)
- Bronchiectasis.
- Interstitial Lung Disease (ILD):
 - Idiopathic Pulmonary Fibrosis and other IIPs
 - Sarcoidosis
 - Hypersensitivity Pneumonitis
- Pulmonary Arterial Hypertension.
- Pulmonary Thromboembolism.
- Pleura disorders.
- Disorders of Ventilation and Sleep Apnea.

RESPIRATORY DISEASES

OBJECTIVES: To understand the pathophysiology and the clinical pictures of respiratory diseases with particular regard to non-invasive and invasive diagnostic algorithms.

TOPICS

- Principles of surgical anatomy: chest wall, pleura, lung, mediastinum.
- Lung cancer: epidemiology, classification, staging.
- Principles of treatment Pneumothorax, pleural effusion, empyema.
- Thoracic trauma Myasthenia gravis: definition, pathophysiology, staging.
- Principles of treatment Mediastinal diseases: superior vena cava syndrome.

THORACIC SURGERY

- Thymomas Malignant mesothelioma: epidemiology, classification, staging.
- Principles of treatment Esophageal diseases: achalasia, diverticula, esophageal cancer.
- Other thoracic malignancies: carcinoid, pulmonary metastases Most common surgical accesses and procedures (basic knowledge): thoracotomy, median sternotomy, video assisted thoracoscopy (VATS), mediastinoscopy, flexible bronchoscopy, rigid bronchoscopy.

TOPICS

VASCULAR SURGERY

- Clinical anatomy, pathophysiology and semeiology of vascular diseases.
- Principles and semeiology of vascular imaging.
- Current prevention strategies and prophylactic therapies of vascular diseases.
- Congenital and autoimmune vascular diseases.
- Acquired, degenerative and infectious vascular diseases.
- Vascular diseases of the supraortic vessels.
- Neurovascular syndromes of the upper extremities (Thoracic Outlet Syndromes).
- Artero-venous malformations and fistulas.
- Acute limb ischemia and embolic disease of cardiac and peripheral origin.
- Aortic coartations.
- Aortic dissections.
- Visceral ischemic syndromes, acute and chronic.
- Aneurysms of the aorta and its branches.
- Aneurysms of the peripheral arteries.
- Peripheral arterial disease.
- Renal vascular diseases and secondary arterial hypertension.
- Vascular traumas.
- Chronic venous insufficiency of the inferior limbs.
- Deep vein thrombosis and pulmonary embolism.
- Post-thrombotic syndrome.
- Lymphoedema.
- Basics of vascular and endovascular surgical techniques.
- Elements of complications related to current vascular therapies.

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.

Bassano Carlo, President
Rogliani Paola
Puxeddu Ermanno
Pisano Calogera
Sangiorgi Giuseppe
Ascoli Marchetti Andrea
Pompeo Eugenio
Voci Paolo

CONTACTS

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PREREQUISITES: Previous knowledge and competence in the following subjects:

Human Anatomy1, Human Anatomy 2, Histology and Embryology, Immunology and Immunopathology, Physiology and Pathophysiology.

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 heart and vessels and the alterations induced by functional and structural abnormalities.
- Highlight the main aspects of respiratory disorders focusing on the etio-pathogenesis, diagnosis and therapy.
- Determine the major indications or contraindications for both medical and surgical therapeutic strategies.
- Identify the incidence and epidemiology of cardiovascular and respiratory diseases in order to understand their impact in the general population.
- Learn to interpret appropriate laboratory and diagnostic studies.
- Analyze a clinical case and provide an exhaustive explanation of the possible diagnostic hypothesis and appropriate therapeutic approaches.

2. **Applying Knowledge and Understanding**

- Apply the theoretical knowledge to the clinical setting, being able to recognize the general diagnostic aspects of cardiovascular and respiratory diseases.
- Evaluate the patient, emphasizing the findings obtained from the history, physical examination, and hemodynamic tests. If the mechanisms underlying these findings can be identified, the correct etiologic, anatomic, and physiologic diagnoses can usually be deduced.
- Provide a differential diagnosis based on specific clinical data.
- Learn the practical aspects of the investigation tests 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.