

## CdS Medicine and Surgery

3.rd year (2.nd semester)  
A.Y. 2026-27

| <b>COD:</b> | <b>Scientific Field SYSTEMIC PATHOLOGY I<br/>Modules</b> | <b>TUTOR - Docente</b> | <b>ECTS -CFU</b> |
|-------------|--|------------------------|------------------|
| 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   | Natale Andrea          | 1                |
| MED/23      | Cardiac Surgery  | D'Onofrio Augusto      | 1                |
| MED/23      | Cardiac Surgery  | Bassano Carlo          | 1                |
|             |  | TOT                    | 8                |

**COORDINATOR-  
Coordinatore:**

**Prof. Carlo Bassano**

### SPECIFIC AIMS :

EN: Acquisition of adequate knowledge of the most relevant diseases of several apparatuses. Under the nosographic, etiopathogenic, pathophysiological 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.

### OBIETTIVI FORMATIVI:

IT: Acquisizione di una conoscenza adeguata delle più rilevanti patologie dei diversi apparati. Tale conoscenza deve riguardare gli aspetti nosografici, eziopatogenetici, fisiopatologici e clinici, nell'ambito di una visione unitaria e integrata della Patologia Umana. Inoltre, lo studente deve sviluppare la capacità di valutare criticamente e correlare i sintomi clinici, i segni obiettivi e le alterazioni funzionali osservate nell'uomo con le lesioni patologiche, interpretandone i meccanismi di insorgenza e approfondendone il significato clinico.

## TOPICS

EN: Epidemiology of Cardiovascular Diseases, The History and Physical Examination:

- 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

- 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.

- IT: Epidemiologia delle malattie cardiovascolari; anamnesi ed esame obiettivo cardiovascolare.
- Principi di genetica e genomica cardiovascolare.
- Fisiopatologia dello scompenso cardiaco.
- Valutazione clinica e inquadramento dello scompenso cardiaco.
- Diagnosi e trattamento dello scompenso cardiaco acuto con frazione di eiezione ridotta e con frazione di eiezione preservata.
- Genesi delle aritmie cardiache.
- Diagnosi delle aritmie cardiache e relativa terapia.
- Biologia vascolare dell'aterosclerosi.
- Fattori di rischio e prevenzione della cardiopatia coronarica.
- Ipertensione arteriosa sistemica: meccanismi fisiopatologici, diagnosi e terapia.
- Flusso ematico coronarico e ischemia miocardica.

- Infarto miocardico con sopraslivellamento del tratto ST (STEMI): patologia, fisiopatologia, caratteristiche cliniche e trattamento.
- Gestione dell'angina instabile e dell'infarto miocardico senza sopraslivellamento del tratto ST (NSTEMI).
- Coronarografia e intervento coronarico percutaneo (angioplastica coronarica).
- Cardiopatie congenite.
- Valvulopatie cardiache.
- Endocardite infettiva.
- Cardiomiopatie (dilatativa, restrittiva e infiltrativa, ipertrofica) e miocardite.
- Embolia polmonare.
- Ipertensione polmonare.
- Malattie del pericardio.

## TOPICS

EN: - Cardiac anatomy.

- Cardiopulmonary bypass.
- Myocardial protection and CNS protection in cardiac surgery.
- Congenital heart diseases: CHD with flow obstruction, CHD with left-to-right shunt, complex CHD, ACHD
- Ischemic heart disease: Clinical features and diagnostic criteria, Natural history, Techniques of myocardial Revascularization, Indications and results, Mechanical complications of IHD, Left ventricular aneurysm.
- Acquired heart valve disease: Morphology, Clinical features and diagnostic criteria, Natural history, Principles of operative Techniques, Indications and results.
- Cardiac tumors.
- Constrictive pericarditis.
- Primary cardiomyopathies and heart transplantation, THA, ECMO, IABP.
- Chronic degenerative aneurysms of the thoracic aorta.
- Acute aortic syndromes.
- Surgical and percutaneous cardiac valve prostheses

## CARDIAC SURGERY

IT:

- Anatomia cardiaca.
- Circolazione extracorporea (Cardiopulmonary Bypass, CPB).
- Protezione miocardica e protezione del sistema nervoso centrale (SNC) nella chirurgia cardiaca.
- Cardiopatie congenite:

- cardiopatie congenite con ostruzione del flusso;
- cardiopatie congenite con shunt sinistro-destro;
- cardiopatie congenite complesse;
- cardiopatie congenite dell'adulto (ACHD, Adult Congenital Heart Disease).
- Cardiopatia ischemica:
  - caratteristiche cliniche e criteri diagnostici;
  - storia naturale della malattia;
  - tecniche di rivascularizzazione miocardica;
  - indicazioni e risultati;
  - complicanze meccaniche della cardiopatia ischemica;
  - aneurisma del ventricolo sinistro.
- Valvulopatie acquisite:
  - morfologia;
  - caratteristiche cliniche e criteri diagnostici;
  - storia naturale della malattia;
  - principi delle tecniche chirurgiche;
  - indicazioni e risultati.
- Tumori cardiaci.
- Pericardite costrittiva.
- Cardiomiopatie primitive e trapianto cardiaco; assistenza ventricolare meccanica totale (THA, Total Heart Assistance o cuore artificiale totale), ECMO (ExtraCorporeal Membrane Oxygenation) e contropulsatore aortico intra-aortico (IABP, Intra-Aortic Balloon Pump).
- Aneurismi degenerativi cronici dell'aorta toracica.
- Sindromi aortiche acute.

## TOPICS

## RESPIRATORY DISEASES

EN: - 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.

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

- IT: Approccio al paziente con malattie dell'apparato respiratorio.
- Procedure diagnostiche nelle malattie respiratorie.
- Insufficienza respiratoria: quadro clinico e principi del trattamento.
- Malattie ostruttive:
  - Asma bronchiale.
  - Broncopneumopatia cronica ostruttiva (BPCO).
  - Bronchiectasie.
- Malattie interstiziali polmonari (ILD, Interstitial Lung Diseases):
  - Fibrosi polmonare idiopatica (IPF) e altre polmoniti interstiziali idiopatiche (IIP).
  - Sarcoidosi.
  - Polmonite da ipersensibilità.
- Ipertensione arteriosa polmonare.
- Tromboembolia polmonare.
- Patologie della pleura.
- Disturbi della ventilazione e sindrome delle apnee ostruttive del sonno (OSAS).
- Obiettivi formativi

Comprendere la fisiopatologia e i quadri clinici delle malattie respiratorie, con particolare attenzione agli algoritmi diagnostici non invasivi e invasivi, al fine di acquisire competenze nell'inquadramento diagnostico e nella gestione clinica dei pazienti affetti da patologie dell'apparato respiratorio.

## TOPICS

## THORACIC SURGERY

- EN: - 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.
  - 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.
- IT: Principi di anatomia chirurgica:
    - parete toracica;
    - pleura;
    - polmone;
    - mediastino.
  - Tumore del polmone:
    - epidemiologia;
    - classificazione;
    - stadiazione;
    - principi di trattamento.
  - Pneumotorace, versamento pleurico ed empiema pleurico.
  - Trauma toracico.
  - Miastenia gravis:
    - definizione;
    - fisiopatologia;
    - stadiazione;
    - principi di trattamento.
  - Patologie del mediastino:
    - sindrome della vena cava superiore.
    - Timomi.
  - Mesotelioma maligno:
    - epidemiologia;
    - classificazione;
    - stadiazione;
    - principi di trattamento.
  - Patologie dell'esofago:
    - acalasia;
    - diverticoli esofagei;
    - carcinoma dell'esofago.

- Altre neoplasie toraciche:
- tumori carcinoidi;
- metastasi polmonari.
- Principali accessi e procedure chirurgiche toraciche (conoscenze di base):
- toracotomia;
- sternotomia mediana;
- toracosopia video-assistita (VATS, Video-Assisted Thoracoscopic Surgery);
- mediastinosopia;
- broncosopia flessibile;
- broncosopia rigida.

## TOPICS

## VASCULAR SURGERY

- EN: - 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.

- IT: Anatomia clinica, fisiopatologia e semeiotica delle malattie vascolari.
- Principi e semeiotica dell'imaging vascolare.
- Strategie attuali di prevenzione e terapie profilattiche delle malattie vascolari.
- Malattie vascolari congenite e autoimmuni.
- Malattie vascolari acquisite, degenerative e infettive.
- Patologie vascolari dei tronchi sovra-aortici.
- Sindromi neurovascolari dell'arto superiore (sindromi dello stretto toracico, Thoracic Outlet Syndromes).
- Malformazioni artero-venose e fistole artero-venose.
- Ischemia acuta degli arti e patologie emboliche di origine cardiaca e periferica.
- Coartazione dell'aorta.
- Dissezione aortica.
- Sindromi ischemiche viscerali acute e croniche.
- Aneurismi dell'aorta e dei suoi rami.
- Aneurismi delle arterie periferiche.
- Arteriopatia periferica obliterante (PAD, Peripheral Arterial Disease).
- Patologie vascolari renali e ipertensione arteriosa secondaria.
- Traumi vascolari.
- Insufficienza venosa cronica degli arti inferiori.
- Trombosi venosa profonda ed embolia polmonare.
- Sindrome post-trombotica.
- Linfedema.
- Fondamenti delle tecniche chirurgiche vascolari ed endovascolari.

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|--------------------------|----------------------------------|
| TEXTBOOKS                | EN: As suggested by teachers.    |
| TESTI DI RIFERIMENTO     | IT: quanto suggerito dai docenti |
| TEACHING METHODS         | EN: Classroom lessons, seminars  |
| METODI DIDATTICI         | IT: Lezioni in classe, seminari  |
| EXAM METHODS             | EN: Oral or written              |
| MODALITA' DI VALUTAZIONE | IT: orale o scritto              |

## EXAM COMMISSION

EN: All the professors assigned to the integrated course

IT: tutti I professori del corso integrato

## CONTACTS-CONTATTI

| Professor     | email  | tel  |
|---------------|--|--|
| Carlo Bassano | <a href="mailto:carlo.bassano@uniroma2.it">carlo.bassano@uniroma2.it</a> | Provided only to scholars' representatives |
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## PREREQUISITES-PREREQUISITI

EN:

IT:

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 respiratory and cardiovascular systems.
- Highlight the main aspects of cardia, lung and vascular disorders focusing on the etiopathogenesis, diagnosis and therapy.
- Recognize the risk factors, populations at risk, relieving or exacerbating factors for any specific clinical case.
- Demonstrate knowledge about established and evolving medicine that is critical to the practice of the clinical and surgical interventions.
- Determine the major indications or contraindications for both medical and surgical therapeutic strategies.
- Identify the incidence and epidemiology of infectious diseases in order to understand their impact worldwide as well as in most affected countries.
- Recognize the importance of preventive medicine and emphasize the role of early intervention.
- 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 the diseases.
- Evaluate the patient, emphasizing the findings obtained from the history, physical examination, and instrumental tests. If the mechanisms underlying these findings can be identified, the correct etiologic, anatomic, and physiologic diagnoses can usually be deduced.
- Predict a differential diagnosis based on given clinical data and provide suitable explanations of the underlying reasonings.
- Learn to interpret appropriate epidemiologic, laboratory and diagnostic studies.
- 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.