

IV year (2nd semester)
A.Y. 2025-26

Scientific Field	SYSTEMIC PATHOLOGY III	TUTOR	ECTS
MED/09	Allergology and Clinical Immunology	Greco Elisabetta	1
MED/17	Infectious Diseases	Sarmati Loredana	1
MED/17	Infectious Diseases	Geretti Anna Maria	1
MED/17	Infectious Diseases	Iannetta Marco	1
MED/15	Blood Diseases	Buccisano Francesco	1
MED/15	Blood Diseases	Venditti Adriano	1
MED/15	Blood Diseases	Voso Maria Teresa	1
MED/16	Rheumatology	Conigliaro Paola	1
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SARMATI LOREDANA
COORDINATOR

SPECIFIC AIMS

This integrated course comprises four main disciplines: Infectious Diseases, Blood Diseases, Allergology and Clinical Immunology, and Rheumatology.

Infectious Diseases

The aim of this module is to provide up-to-date knowledge on the most common infectious diseases. The specific learning objectives are:

- 1) Understanding the main infectious syndromes.
- 2) Recognition of diseases caused by major infectious agents.
- 3) Awareness of infections in immunocompromised patients and healthcare-associated infections.
- 4) Familiarity with diagnostic methodologies.
- 5) Fundamental principles of antimicrobial therapy.

Hematology

This part of the course aims to update students on hematologic diseases of major clinical and therapeutic relevance.

In particular, building on recent biological advances, it provides comprehensive knowledge of diagnostic procedures and therapeutic strategies for both neoplastic and non-neoplastic hematologic conditions.

Allergology, Clinical Immunology, and Rheumatology

The third section of the course focuses on the immune system, from physiological function to pathological conditions. Topics include pathogenic immunoreactions, immunodeficiencies, immune tolerance, autoimmunity, allergy, and pseudo-allergy. Students will gain essential knowledge of diagnostic approaches and immunomodulatory strategies aimed at achieving therapeutic immune

responses. This section also aims to equip students with the clinical knowledge and interpersonal skills necessary for an effective and balanced collaboration with specialists, ensuring optimal approach to patient care.

PROGRAM

INFECTIOUS DISEASES

- CLINICAL SYNDROMES: localized infections. Sepsis and septic shock. Infective endocarditis. Acute infectious enteritis and food Poisoning. Infectious hepatitis; Urinary tract infections. Infectious osteomyelitis. Meningitis and meningoencephalitis.

- BACTERIAL DISEASES: Pneumonia caused by *Streptococcus pneumoniae*; gram-negative aerobic bacteria, anaerobic bacteria, and *Mycoplasma*. Pertussis. Diphtheria. Streptococcal infections and post-streptococcal complications. Staphylococcal infections. Bacterial meningitis (meningococcal, pneumococcal, *Haemophilus influenzae*.). Osteomyelitis. Clostridial infections (tetanus, botulism, pseudomembranous colitis). Enteric infections: typhoid fever and other *Salmonella* infections, shigellosis. Cholera, enteritis caused by *Campylobacter*, *Escherichia coli*, *Yersinia enterocolitica*, and traveler's diarrhea). Anthrax. Actinomycosis. Brucellosis. Cat-scratch disease. Mycobacterial infections (extrapulmonary tuberculosis, leprosy). Spirochetal diseases (leptospirosis, Lyme disease). Chlamydial infections (trachoma, psittacosis, ornithosis). Rickettsial diseases (Mediterranean spotted fever and other arthropod-borne diseases, Q fever).

- VIRAL DISEASES: Respiratory viral infections (common cold, pharyngitis, laryngitis, croup and bronchitis epidemic influenza epidemic). Infectious mononucleosis. Cytomegalovirus (CMV) infection. Herpes simplex virus (HSV) infection. Varicella-zoster virus (VZV) infection.

Measles. Rubella. Mumps. Viral gastroenteritis. Enteroviral infections (epidemic pleurodynia, myocarditis and pericarditis, mucocutaneous syndromes). Retroviral Diseases (HIV infection and related conditions). Overview of arboviral diseases and prion-related infections.

- FUNGAL DISEASES: Candidiasis. Cryptococcosis. Pneumocystosis. Aspergillosis. Mycetoma.

- PROTOZOAL DISEASES: Malaria. Toxoplasmosis. Amebiasis. Leishmaniasis. Cryptosporidiosis. Trypanosomiasis. Giardiasis.

- HELMINTHIC DISEASES: Intestinal tapeworms infections (*Taenia saginata*, *Taenia solium*) and tissue infections (echinococcosis). Trematode infections (schistosomiasis). Intestinal nematode infections (*Ancylostomiasis*, ascariasis, enterobiasis, trichuriasis) and

Tissue infections (Filariasis).

- PRINCIPLES OF THERAPY: antibacterial, antiviral, antifungal and antiparasitic treatment strategies

PROGRAM

- HEMATOPOIETIC AND LYMPHOPOIETIC SYSTEM.

- DISORDERS OF RED CELLS.

- DISORDERS OF WHITE BLOOD CELLS.

HEMATOLOGY

- ACUTE MYELOID LEUKEMIA.

- ACUTE LYMPHOID LEUKEMIA.

- MYELOYDYSPLASTIC SYNDROMES.

- CHRONIC MYELOID LEUKEMIA.

- PH NEGATIVE MYELOPROLIFERATIVE DISORDERS.

- MULTIPLE MYELOMA.

- AMYLOIDOSIS.

- CHRONIC LYMPHOCYTIC LEUKEMIA.

- HODGKIN LYMPHOMA.

- NON-HODGKIN LYMPHOMA.

- NORMAL HEMOSTASIS.

- PLATELET AND BLEEDING DISORDERS.

PROGRAM

ALLERGOLOGY

- ALLERGY AND PSEUDOALLERGY.
- BRONCHIAL ASTHMA.
- ALLERGIC OCULORHINITIS.
- FOOD ALLERGY.
- DRUGS ALLERGY.
- ATOPIC DERMATITIS.
- URTICARIA-ANGIOEDEMA SYNDROME.
- INSECT STING ALLERGY.
- ANAPHYLAXIS.
- PRINCIPLES OF TREATMENT OF ALLERGIC DISEASES.
- PATHOGEN IMMUNE REACTIONS.
- IMMUNODEFICIENCIES.
- COMPLEMENT DEFICIENCIES.
- INTERACTIONS WITH OTHER SPECIALISTS.
- PRINCIPLES OF TRATMENT OF IMMUNOLOGICAL DISEASES. Update of good news in the literature
- IMMUNE TOLERANCE AND AUTOIMMUNITY.
- THE MOSAIC OF AUTOIMMUNITY.

- CONNECTIVE TISSUE DISEASES AND VASCULITIDES: SLE; Scleroderma; Dermatomyositis and polymyositis; Vasculitides; Sjogren's syndrome; Overlap syndromes; MCTD; APS.
- PRINCIPLES OF TREATMENT OF RHEUMATIC DISEASES.
- UPDATE OF GOOD NEWS IN THE LITERATURE.

TEXTBOOKS

- HARRISON'S Principles of Internal Medicine. McGraw-Hill;
- Slides from lessons.

EXAM METHOD

Oral examination at the end of the course

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.

Sarmati Loredana, President
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PREREQUISITES: Previous knowledge and competence in the following subjects: Human Anatomy1, Human Anatomy 2, Histology and Embryology, Physiology and Pathophysiology, Immunology and Immunopathology, Microbiology, General Pathology, Pharmacology.

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 lymphoematopoietic and immune systems and the alterations induced by functional and structural abnormalities.
- Highlight the main aspects of hematologic, rheumatologic, allergic and infectious 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.