

Master's Degree in Dentistry and Dental Prosthetics 2023/2024

Integrated Teaching: Medical Science

Scientific Disciplinary Sectors: MED/15, MED/11, MED/06, MED/12, MED/13, MED/05

Responsible Professor: Prof. [Corsello Salvatore M.](#); e-mail: salvatoremaria.corsello@unicamillus.org

Number of University Educational Credits (CFU): 9

Module: Blood diseases

Scientific Disciplinary Sector: MED/15

Number of University Educational Credits (CFU): 1

Professor: Prof. [Mancini Marco](#); e-mail: marco.mancini@unicamillus.org

Module: Cardiovascular diseases

Scientific Disciplinary Sector: MED/11

Number of University Educational Credits (CFU): 1

Professor: Prof. [Boccanelli Alessandro](#); e-mail: alessandro.boccanelli@unicamillus.org

Module: Oncology

Scientific Disciplinary Sector: MED/06

Number of University Educational Credits (CFU): 2

Professor: Prof. [Manuel Scimeca](#); e-mail: manuel.scimeca@unicamillus.org

Module: Gastroenterology

Scientific Disciplinary Sector: MED/12

Number of University Educational Credits (CFU): 3

Professors:

- Prof. [Leonetti Giovanni](#) (2 CFU); e-mail: giovanni.leonetti@unicamillus.org
- Prof.ssa [Di Paolo Maria Carla](#) (1 CFU); e-mail: mariacarla.dipaolo@unicamillus.org

Module: Endocrine diseases

Scientific Disciplinary Sector: MED/13

Number of University Educational Credits (CFU): 1

Professor: Prof. [Corsello Salvatore M.](#); e-mail: salvatoremaria.corsello@unicamillus.org

Module: Clinical pathology

Scientific Disciplinary Sector: MED/05

Number of University Educational Credits (CFU): 1

Professor: Prof. [Barillari Giovanni](#); e-mail: giovanni.barillari@unicamillus.org

PREREQUISITES

It is a fundamental requirement that students have acquired basic knowledge of biology, biochemistry, immunology, anatomy, physiology and pathophysiology including the histological structure and normal human anatomy. There are no prerequisites for the course of Medical Sciences.

LEARNING OBJECTIVES

The integrated course in “Medical Sciences” provides a general framework of the etiology, pathophysiology, clinical features, and healthcare bases of the main pathologies in Ematology, Cardiology, Oncology, Gastroenterology and Endocrinology. It also provides the fundamental knowledges concerning the diagnosis based on information deriving from the Laboratory.

The course of "Blood Diseases" is aimed to introduce students of the degree course in Dentistry and Dental Prosthetics to the main pathologies and syndromes of hematological and oncological interest, and their possible implications on the oral cavity.

The aim of the course of “Cardiovascular diseases” is to provide adequate knowledge about epidemiology, etiology, pathogenesis, diagnosis, prognosis and treatment of cardiovascular diseases.

The “Gastroenterology” teaching aims to provide dentistry students with essential information on the most important pathologies of gastroenterological competence: to assimilate the epidemiology and clinical manifestation of esophageal, gastric and duodenal diseases; to provide general knowledge of the diagnosis and therapy of irritable bowel syndrome; to provide knowledges concerning the presentation, diagnosis and treatment of upper and lower digestive bleeding; to introduce the fundamentals of endoscopic diagnosis and therapy and its potential complications;

The course of "Oncology" is aimed to provide an integral knowledge about cancer (biological bases, clinical consequences, morphological characterization, surgical treatment, radiotherapy and medical treatments) and also about palliative care. At the end of the course, students will acquire the tools to understand the pathogenesis of cancers and their risk factors.

The teaching of "Endocrinological Diseases" aims to provide knowledges on the pathophysiology of the endocrine-metabolic system. The causes, pathophysiological mechanisms, as well as diagnostic and therapeutic approaches of the most important endocrine diseases will be analyzed, especially in relation to Dentistry.

The "Clinical Pathology" course aims to provide knowledge related to the role that the clinical laboratory has in:

- 1) the identification and counting of the figurative elements of blood;
- 2) assessment of the patient's inflammatory status;
- 3) the study of jaundice;
- 4) monitoring of haemostasis;
- 5) evaluation of renal function;
- 6) the measurement of enzyme activity in human biological fluids;
- 7) the determination of blood levels of lipids and glucose and the significance of their alterations.

LEARNING OUTCOMES

Knowledge and Understanding

At the end of this teaching, the student will be able:

- To classify the main gastroenterological pathologies (esophageal and gastric pathologies, cholestatic diseases, inflammatory conditions of the colon, neoplasms of the digestive system) and know their signs and symptoms, evaluating their severity and importance.
- To distinguish organic and functional pathologies of the gastrointestinal system and to understand the methods for their diagnosis
- To critically evaluate the influence of the main environmental factors on the physiology of the digestive system
- To know the functions of the endocrine system and the pathophysiological basis of the main Endocrinological diseases
- To know the clinical presentation and the tools for the diagnosis of endocrine diseases and the main therapeutic approaches.
- To know the epidemiology of cancer, risk factors, oncological prevention, and hereditary cancer syndromes.
- To know the principles of tumor biology, carcinogenesis and new molecular targets.
- To know the epidemiology, risk factors, and the clinical and therapeutic approaches of specific neoplasms: breast tumors, lung tumors, colorectal tumors, esophageal, stomach and pancreatic tumors, prostate tumors, kidney and bladder tumors, ovarian and uterine neoplasms, melanoma, brain tumors, head and neck tumors and soft tissue sarcomas.
- To demonstrate the acquisition of adequate knowledge regarding diagnosis, clinical features and therapy of the main cardiovascular pathologies
- To know the clinical use of laboratory tests, the interpretation of their results and their integration into clinical settings.
- To know the implications of biological markers in the Evidence-Based Medicine.
- To know the methodologies used for the blood cells count
- To know the mechanisms underlying the hemostasis and fibrinolysis, as well as the main laboratory investigations used to define the hemorrhagic or thrombotic risk
- To know the diagnostic tests used to confirm an inflammatory state and their main clinical indications.
- To know the laboratory investigations used for the diagnosis of the most common causes of jaundice.
- To understand the interpretation of macroscopic, microscopic and chemical-physical examination of urinary samples.
- To understand the interpretation of the diagnostic tests used to determine the activity of enzymes
- To know the normal glucose levels and the concentration of lipids in the blood, and to understand the causes of their pathological variations.
- To use the appropriate terminology in the interaction with the Patient for all clinical situations concerning the subjects covered by the integrated course.

Applying Knowledge and Understanding

Students must develop analytical methodological skills. They must know the principles of evidence-based medicine and relate them to each specific clinical situation. To this end, they will have to develop the capacity for continuous updating and research through the main archives of biomedical literature available online.

Communication Skills

Students must have learned an adequate technical-scientific language; they will also have to develop communication skills with the patient starting from the collection of the anamnesis up to the communication of the diagnosis and related prognosis and therapy.

Making Judgements

- To recognize the importance of in-depth knowledge of the topics in accordance with adequate dental training
- To identify the importance of theoretical knowledge of the subject for the dental profession

Learning skills

The student will acquire skills and learning methods suitable for the deepening and improvement of their competences in the field of Medical Sciences. At the end of the course the student will have developed the ability to deepen the topics also through the consultation of scientific literature.

COURSE SYLLABUS

Blood diseases

- Hematopoiesis
- Anemia
- Medullary aplasia
- Acute and chronic leukemias
- Myeloproliferative syndromes
- Myelodysplastic syndromes
- Gammopathies
- Hodgkin lymphomas and non-Hodgkin lymphomas
- Thrombocytopenia and thrombocytopathies
- General overview of hemorrhagic diseases: hemophilia and von Willebrand's disease
- Venous and arterial thromboembolism: prophylaxis and therapy.

Cardiovascular diseases

- Ischemic heart disease
- Atherosclerosis: Pathophysiology of acute coronary syndromes and chronic ischemia, conventional risk factors; search for subclinical atherosclerosis (Doppler ultrasound of carotid – femoral arteries, Calcium Score, ABI index, ergometric test);
- Acute coronary syndromes: Unstable angina, NSTEMI and STEMI; diagnosis: symptoms, laboratory, ECG, coronary angiography, coronary CT scan, coronary imaging, echocardiogram, MRI; Treatment: Medical, PTCA, CABG;

- Chronic ischemia: Symptoms; Tests: Ergometric test, nuclear medicine, Echo-stress, coronary CT scan, coronary angiography; Treatment: Medical, PTCA, CABG;
- Vasospastic angina: Symptoms; Tests: Holter monitoring, coronary CT scan, coronary angiography, invasive tests; Treatment: Medical, PTCA;
- Heart failure: Etiology and pathophysiology; symptoms and signs, Lab. Tests, ECG, Echocardiogram, chest x-ray, ergometric catheterization test, MRI; Medical therapy;
- Cardiomyopathies: Dilated, ischemic, hypertrophic, restrictive and arrhythmogenic; Symptoms and signs, Lab. Tests, ECG, Echocardiogram, chest x-ray, catheterization, ergometric test, MRI; Medical therapy;
- Myocarditis and pericarditis: Etiology and pathophysiology; Symptoms and signs, Lab. Tests, ECG, Echocardiogram, chest x-ray, ergometric catheterization test, MRI; Medical therapy;
- Arrhythmias; Sinus node, normal and abnormal rhythms, bradyarrhythmias, supraventricular tachycardia, atrial fibrillation, ventricular tachyarrhythmias; Diagnosis; Symptoms, ECG, Holter, electrophysiology; Therapy: Medical, Ablation;
- Valvular diseases, congenital heart disease, aortic dissection and aneurysms, pulmonary embolism and pulmonary hypertension.

Oncology

- Epidemiology of tumors, risk factors, oncological prevention, hereditary tumors
- Principles of tumor biology, carcinogenesis, and new molecular targets
- Oncological diagnostics and staging of neoplastic disease
- Prognostic and predictive factors in oncology
- Molecular biomarkers
- Principles of medical oncology therapy: chemotherapy, hormone therapy, biological therapies, immunotherapy. Concept of neoadjuvant, adjuvant, supportive and palliative therapy for advanced and metastatic disease. Criteria for evaluating response to treatment.
- Toxicity from antineoplastic, biological and immunotherapeutic drugs
- Epidemiology, risk factors, clinical and therapeutic approach of specific neoplasms: breast tumors, lung tumors, colorectal tumors, prostate tumors, kidney tumors, ovarian tumors, melanoma, brain tumors, cervical tumors facial and soft tissue sarcomas
- Paraneoplastic syndromes
- Environmental pollution and tumors

Gastroenterology

Prof. Leonetti Giovanni

- Gastro-esophageal reflux disease: epidemiology, pathophysiology, clinical presentation, diagnosis, and therapy
- Gastritis and duodenitis: diagnostic framework (with particular attention to the histological one). Consequences of gastritis
- Peptic ulcer and role of Helicobacter Pylori
- Irritable bowel syndrome: natural history, symptoms, differential diagnosis, therapeutic strategy
- Biliary tract stones: main forms of biliary lithiasis, epidemiology and pathogenesis, diagnostic and therapeutic path for gallbladder and main biliary tract lithiasis

- Digestive hemorrhages: management of the patient with digestive hemorrhage, describing the main causes of bleeding in terms of epidemiology, diagnosis and therapy as well as the main methods useful in the diagnosis and therapy of digestive bleeding
- Esophagus, stomach, and colon cancers: from symptom to therapy

Prof. Di Paolo Maria Carla

- Gastrointestinal symptoms
- Emergency endoscopy for foreign bodies
- Celiac disease
- Chronic intestinal inflammatory diseases
- Colic diverticulosis
- Colonic polyps and colon neoplasms
- Neoplasms esophagus, stomach, pancreas, small intestine

Endocrinological diseases

- Anatomy, physiology and pathophysiology of the endocrine system, hormone-receptor mechanism, classification of hormones
- Pituitary diseases: pituitary adenomas, hyperprolactinemia, acromegaly, growth disorders
- Thyroid disorders: hypothyroidism, hyperthyroidism, thyroiditis, thyroid nodules, and thyroid carcinoma
- Adrenal gland disorders: hypoadrenalism, hyperaldosteronism, pheochromocytoma, Cushing's syndrome
- Disorders of calcium and phosphate metabolism and osteoporosis
- Hirsutism

Clinical Pathology

- Clinical role of the laboratory
- Complete blood count
- Evaluation of hemostasis
- Markers of inflammatory and immune reactions
- Diagnostics of jaundice
- Notes on clinical enzymology
- Blood sugar and lipemia
- Urinalysis.

COURSE STRUCTURE

The course is divided into lectures for a total of 90 hours divided into 10 hours of blood diseases, 10 hours of cardiovascular disease, 20 hours of oncology, 30 hours of gastroenterology, 10 hours of endocrinological diseases and 10 hours of clinical pathology. The teachers use educational tools such as presentations organized in Power Point files with explanatory diagrams, illustrations and images to describe the various topics. Attendance is compulsory.

COURSE GRADE DETERMINATION

The final exam includes a written test consisting of multiple-choice questions (one correct answer). Specifically, the written test includes a different number of questions calculated on the basis of the credits of the individual modules, as follows:

Blood Diseases: 10 questions.

Endocrinology: 10 questions.

Cardiology: 10 questions.

Clinical pathology: 10 questions.

Oncology: 20 questions.

Gastroenterology (prof. Leonetti): 20 questions.

Gastroenterology (Prof. Di Paolo): 10 questions.

Based on the questions of the written test, the evaluation will be based on the following criteria:

Ineligible: Major gaps and/or inaccuracies in knowledge and understanding of the topics; limited analysis and synthesis skills, frequent generalizations.

18-20: knowledge and understanding of the topics just sufficient with possible imperfections; Sufficient analytical, synthesis and independent judgment skills.

21-23: knowledge and understanding of routine topics; analytical skills and correct summaries with coherent logical argumentation.

24-26: reasonable knowledge and understanding of the topics; good skills analysis and synthesis with rigorously expressed arguments.

27-29: complete knowledge and understanding of the topics; remarkable abilities, analysis, synthesis. Good independent judgement.

30-30L: excellent level of knowledge and understanding of the topics. Notable capacity for analysis and synthesis and independent judgement. Arguments expressed in original way

SUPPORT ACTIVITIES / OPTIONAL ACTIVITIES

Students can request optional workshops to explore some specific topics of interest.

READING MATERIALS

- Manuale di endocrinologia, A. Lenzi. Carocci Editore 2023
- Corso di malattie del sangue e degli organi emolinfopoietici - Sante Tura, Michele Cavo, Pier Luigi Zinzani- Società editrice Esculapio
- Ematologia di Mandelli - Seconda edizione - a cura di Giuseppe Avvisati- Società editrice Piccin
- Malattie dell'apparato digerente, UNIGASTRO, edizione 2022-2025 , Editrice Gastroenterologica Italiana
- Malattie appartato digerente 2019-2022- Editore Edra.
- Sleisenger e Fordtran. Malattie gastrointestinali ed epatiche. Fisiopatologia, diagnosi e trattamento (Vol. I e Vol. II)- Editore Edra.
- Italo Antonozzi, Elio Gulletta. Medicina di Laboratorio : logica e Patologia Clinica. PICCIN editore.
- Manuale di ONCOLOGIA MEDICA A cura del COMU-Collegio degli Oncologi Medici Italiani Edizioni Minerva Medica, 2018
- Hurst's. Il cuore, 14 edizione.
- ESC Textbook of Cardiovascular Medicine.



Teachers can provide learning materials or suggest specific readings.