Degree in Medicine and Surgery

Integrated Course: Systematic Pathology II **12 ECTS**
Number of Groups: 2 (A and B)
Coordinator: Salvatore Maria Corsello

Module: **Gastroenterology**
SDS: **MED/12**
ECTS: **2+2**
Prof. Iacopini Federico e-mail: federico.iacopini@gmail.com

Module: **Endocrinology**
SDS: **MED/13**
ECTS: **3+3**
Prof. Salvatore Maria Corsello (1+1) e-mail: salvatoremaria.corsello@unicamillus.org
Prof. Marco Infante (1+1) e-mail: marco.infante@unicamillus.org
Prof. Rosa Maria Paragliola (1+1) e-mail: rosamaria.paragliola@unicamillus.org

Module: **Nephrology**
SSD: **MED/14**
ECTS: **2+2**
Prof. Paolo De Paolis e-mail**:** depaolis.paolo@unicamillus.org

Module: **Urology**
SSD: **MED/24**
ECTS: **3+3**
Prof. Paolo Emiliozzi e-mail: paolo.emiliozzi@unicamillus.org
Prof. Stefano Signore e-mail: signore.urologia@gmail.com

Module: **Applied Dietary Technical Sciences**
SSD: **MED/49**
ECTS: **2+2**
Prof. Gianfranco Peluso e-mail: gianfranco.peluso@unicamillus.org

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PREREQUISITES

Students must have acquired good knowledge of embryogenic development, microscopic and macroscopic structures (anatomy and histology) of the digestive tract and liver, of the genito-urinary system and of the endocrine system. Furthermore, they must possess the fundamental knowledges of physiology, Human Anatomy and recognize any correlated physio-pathological clinical pictures.

LEARNING OBJECTIVES

The course of Gastroenterology is aimed to provide the possibility to systematically learn pathologic and physio-pathologic bases of most prevalent diseases of the digestive tract, the liver and pancreas. students would move through symptoms and exams according to appropriate diagnostic and therapeutic algorithms for differential diagnosis.

The course of Endocrinology is aimed to provide knowledges of the physiology and pathophysiology of the endocrine system and metabolism, through the analysis of the causes and main endocrine pathologies. At the end of the course, the student will be able to understand the clinical presentation of the different endocrine pathologies, the diagnostic tools used to confirm the diagnosis and the medical and/or surgical therapies to be applied in the different clinical scenarios.

The course of Nephrology aims to provide the student with the essential elements for general theoretical and practical knowledge of the main primary and secondary diseases and syndromes involving the kidneys and excretory tracts. The aim is to provide: 1) a correct methodological and notional approach; 2) a characterization of the pathogenesis and the histological-morphological picture; 3) the acquisition of clinical pictures and knowledge of prevention, differential diagnostics, clinical course, decision making and possible complications. At the end of the lessons the student will know the basic notions of the main renal pathologies in their acute phase and the biochemical, instrumental and clinical investigations necessary for their diagnosis and therapy. The scheduled internships and monothematic elective courses will provide the theoretical-practical basis for recognizing the type of pathology by evaluating the symptoms, clinical signs, laboratory and instrumental tests.

The course of Urology is aimed to provide knowledges regarding physiology and pathology of the genital male system and of the urinary system. The student will be able to discriminate between the main signs and symptoms in order to identify a correct diagnostic procedure, to set the elements for a differential diagnosis. It is required the knowledge of the current therapeutic approaches. At the end of the course the student must be able to: provide the main notions of anatomy, physiology and pathophysiology of the urinary and male genital tract; develop diagnostic and therapeutic (both medical and surgical) planning, referring to scientific evidence.

The teaching of Technical Dietetic Sciences will provide the student with the techniques and methods of nutritional semiotics for the evaluation of nutritional status, aimed at predicting the risk of pathologies. At the end of the course, the student will have to know the basics of correct nutrition and know how to apply diet therapy programs in different clinical conditions (physiological and pathological).

LEARNING OUTCOMES

Knowledge and understanding

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

- Identify the main signs and symptoms of gastroenterological disorders
- Classify symptoms according to relevance and severity
- Propose a diagnostic and therapeutic algorithm of principal GE diseases according to

clinical and pathophysiological elements.
- Propose medical and interventional approaches for digestive diseases
- Systematically analyze digestive pathological scenarios

- Know the principles of evidence-based medicine and identify settings for their application, and when second-line investigations are warranted
- Use web-based tools for these tasks
- Converse using specific scientific terms, and apply appropriate diagnostic and prognostic scores
- Achieve proficiency in basic patient communication, to collect relevant history, and address the fundamentals of diagnosis and treatment
- Know the pathophysiological bases of the main diseases of the endocrine system and metabolism
- Know the clinical presentation, diagnosis and differential diagnosis of the main endocrinological diseases
- Identify the main signs and symptoms of renal disorders and understand symptoms according to relevance and severity
- Set up a diagnostic flow chart to reach a right diagnosis by connecting clinical and
- pathophysiological elements
- Knowledge of medical and interventional approaches for renal diseases
- Provide the main notions of anatomy, physiology and pathophysiology of the urinary and male genital tract
- Develop diagnostic reasoning and therapeutic planning, referring to scientific evidence
- Know the main notions of anatomy, physiology and pathophysiology of the urinary and male genital tract
- Know and discriminate between the main urological symptoms
- Know how to recognize the main urological and male genital pathologies
- Propose a symptom-based diagnostic flow chart in order to reach a diagnostic hypothesis
- Know the main urological surgical procedures
- Know the devices commonly used in urological patients (urostomies, catheters, drainage, etc...)
- Know the nutritional risk indicators predictive of pathologies, the metabolic processes involving nutrients and the role of diet in the prevention of several pathologies
- Know the principles of artificial nutrition, nutrigenetics and nutrigenomics and precision nutrition
- Know how to apply specific diet therapy programs in different clinical settings
- Use the appropriate terminology and know specifically the topics present in the program and covered during the lessons

Ability to apply knowledge and understanding
The aim of the integrated course of Systematic Pathology II is the development of an analytical methodological capacity. For each individual teaching module, students will have to know the principles of evidence-based medicine, relate them to each specific clinical situation and also be able to identify clinical situations characterized by atypical presentations, proposing for each of them an adequate diagnostic procedure and therapy. Students will also have to develop their learning skills, integrating information from textbooks with the evidence contained in scientific publications, in order to consolidate and expand the knowledge acquired even independently.

Communication skills
The integrated teaching promotes communication skills to improve individual abilities to argue with effectiveness and expressive precision. These skills will be achieved specifically in teacher-student interactions within different scenarios. Students must have learned an adequate technical-scientific language through the acquisition of universally accepted diagnostic and prognostic scores; furthermore they will have to develop communication skills with the patient, from the collection of the medical history up to the communication of the diagnosis and related prognosis and therapy.

Autonomy of judgment
At the end of the lessons, the student will have learned the fundamental elements relating to the most important pathologies of the modules of the integrated course. They will be able to carry out a logical procedure aimed at critically analyzing the information received from the patient, to diagnose each element differential even in case of rare diseases. The student will have developed the ability to integrate the scientific knowledge acquired by applying it to specific clinical situations, to formulate an appropriate assessment that guides the diagnostic and therapeutic decision-making process.

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STUDY COURSE PROGRAM

Gastroenterology

- Main gastroenterologic symptoms as well as Alarm Signs and Symptoms
- Dysphagia, oropharyngeal and esophageal, e esophageal motility disorders
- Chest pain, gastroesophageal reflux disease and overlapping syndromes, Barrett Esophagus and the esophageal adenocarcinoma
- Inflammatory and allergic diseases: eosinophilic disorders (esophagitis & gastroenteritis), celiac disease, Ig4 biliary and pancreatic diseases
- Squamocellular cancer of the esophagus and anus
- Peptic ulcer disease, H. pylori positive gastritis, gastric adenocarcinoma
- Gastrointestinal bleeding, upper and lower GI tract
- Abdominal pain: differential diagnosis of organic and functional causes
- Diverticular disease of the colon and the Irritable bowel disease
- Chronic and Acute diarrhea and malabsorptiomn
- Inflammatory bowel diseases: ulcerative colitis and Crohn
- Preneoplastic and neoplastic lesions of the GI tracts
- Ereditary syndromes with an increased risk of GI cancer: polyposis and non-polyposis
- Biliary stone disease, acute cholecystitis, acute cholangitis, biliary cancer
- Acute and chronic pancreatitis and pancreatic cancer
- Viral, autoimmune and drug-induced hepatitis
- Liver cirrhosis and complications: portal hypertension; hepatic encephalopathy; ascites; spontaneous bacterial peritonitis; hepato-renal syndrome
- Hepatocellular carcinoma
- Cholestatic diseases: primary biliary cholangitis and PSC
- Intestinal obstruction

Endocrinology

- Physiology and Pathophysiology of the endocrine system; hormones and receptors
- Classification, clinical presentation, diagnosis, and therapy of the main hypothalamic-pituitary diseases: pituitary adenomas, acromegaly/gigantism, hyperprolactinemia, hypopituitarism, diabetes insipidus
- Classification, clinical presentation, diagnosis, and therapy of the main thyroid diseases: thyroiditis, hypothyroidism, hyperthyroidism, thyroid nodule, thyroid carcinoma
- Classification, clinical presentation, diagnosis, and therapy of the main adrenal diseases: hypoadrenalism, Cushing's syndrome, hyperaldosteronism, pheochromocytoma, adrenal masses
- Classification, clinical presentation, diagnosis, and therapy of hyperandrogenisms
- Pathophysiology of the endocrine pancreas, diabetes mellitus, acute and chronic complications, and other forms of diabetes mellitus
- Eating disorders and hypoglycemia
- Obesity and thinness
- Pathophysiology of calcium-phosphorus metabolism, parathyroid-related diseases and osteoporosis
- Dyslipidemias and metabolic disorders.

Nefrology

- Nosography of nephropathies
- Semeiotical Nephrology
- Acid Base and electrolytes disorders
- Glomerular Nephropaties: Classification, Pathogenesis
- Nephrotic Syndrome: minimal cgange disease, focal and segmental glomerulosclerosis,

membranous nephropathy

- Nephritic Syndrome: post streptococcical nephritis, Berger neprihtis
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- Other Glomerulonephritis: membrano-proliferative, rapidly progressive
- Secondary Nephropathies (I): LES, diabetic nephropathy
- Other Glomerulonephritis(II): crioglobulinemia, myeloma kidney, amyloidosis
- Vasculitis: PAN, ANCA Vasculitis, immunecomplex vsculitis
- Thrombotic Mycroangiopaty:,eus e PTT,
- Acute renal failure I
- Acute renal failure II
- Ereditary nephropathies: ADPKD, ALPORT syndrome, Fabry disease
- Pregnancy and kidney
- Chronic Renal Failure
- Renal Replacement Therapy: Hemodialysis, peritoneal dialysis,
- Evaluation of candidate to kidney transplant
- Kidney transplantation in all modality
- Clinical Complications in mediu, and long-term

Urology

- Basics of the anatomy and physiology of the urinary system and of the male genital system Bases of semiotics of the urogenital system
- Complicated and uncomplicated urinary infections
- Benign Prostatic Hyperplasya (BPH)
- Bladder neck contracture
- Urethral stricture
- Urological syndromes
- Urinary incontinence
- Urinary stones, hydronephrosis.
- Tumors of the urinary system and of the male genital system (bladder, upper urinary tract, kidney, prostate, testicle,)
- Genitourinary malformations
- Urological emergencies
- Bladder catheterization and other urinary drainages
- Urinary diversions: management and complications

Applied Dietary Technical Sciences

- Techniques and methods of nutritional semiotics and nutritional status assessment to define the state of health and the risk of disease
- Nutritional risk indicators predictive of pathologies
- Metabolic processes affecting nutrients and the role of diet in the prevention of chronic degenerative diseases
- Evaluation of nutritional status and energy needs
- The principles of Artificial Nutrition: Enteral and parenteral nutrition
- Principles of nutritional genomics (nutrigenetics/nutrigenomics, nutriepigenetics/nutriepigenomics)
- The basics of proper nutrition for maintaining the state of health. Know how to apply diet therapy programs in physiological, paraphysiological and pathological conditions.
- Nutrition and chronic degenerative pathology
- Obesity phenotypes
- Intestinal microbiota and psychobiome
- Precision Nutrition in Predictive, Preventive, Personalized and Participatory Medicine

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TEACHING METHOD

The course is divided into lectures. The teachers use didactic tools such as powerpoint presentation with explanatory diagrams, illustrations, and images to describe the pathologies. Attendance is mandatory.

FINAL EXAM

The exam consists of written multiple-choice questions (100 questions, 20 for each teaching module), with only one correct answer.

Students who achieve the maximum score will pass the exam with honours.

The written test will be created considering the knowledge and understanding of the topics, the analysis and synthesis skills and the independent judgment skills.

The exam will be evaluated overall according to the following criteria:

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

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 e correct summaries with coherent logical argumentation.

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

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.

In presence of critical situations, the Commission can evaluate to modify the modality of the exams, adding an oral test.

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READING MATERIALS

Gastroenterology
Harrison‘s Principle of Internal Medicine
Sleisenger and Fordtran’s gastrointestinal and liver disease
PubMed (review)

Endocrinology
Harrison‘s Principle of Internal Medicine (chapter of Endocrinology)
Manuale di Endocrinologia, A. Lenzi. Carocci Editore 2023

Nefrology
Evidence-Based Nephrology, 2° Edition. (English Edition): Jonathan C. Craig, Donald A. Molony, Giovanni F.M. Strippoli. Wiley Blackwell

Urology
Smith and Tanagho’s General urology, Jack Mcaninichch, Tom Lue, Mc Grow Hill Education. Campbell-Walsh Urology 11th Edition Review Elsevier

Applied Dietary Technical Sciences
Janice L. Kelly, Raymond Morrow. Krause and Mahan’s Food & The Nutrition Care Process. Elsevier 16th Edition (27-09-2022) ISBN: 9780323810258