UNICAMILLUS

Degree in Medicine and Surgery

Integrated teaching: **Clinical and Systematic Medical Surgical Methodology**

SSD: **MED/09, MED/18**

Coordinator: **Solimando Luisa**

Number of CFU: **4**

Module: **Internal Medicine**

SSD: **MED/09**

Professors: Solimando Luisa (2 CFU) e-mail: roberto.paganelli@unicamillus.org

Module: **General Surgery**

SSD: **MED/18**

Professor: Cardillo Giuseppe (2 CFU) e-mail: giuseppe.cardillo@unicamillus.org

PREREQUISITES
Knowledge of anatomy, biochemistry, general physiology and pathology.
Previous knowledge and skills in the following subjects: Human Anatomy I; Human Anatomy I; Physiology and Physiopathology; Biology and Genetics; Biochemistry and Molecular Biology.

LEARNING OBJECTIVES:

INTERNAL MEDICINE
• what is the anamnesis collection technique
• how to perform an objective examination and distinguish normal findings from the main pathological findings
• how to recognize the main objective findings in the most frequent medical syndromes
• what are normal values of common laboratory tests used in clinical practice
• what are the main instrumental tests that can be used and when their prescription is appropriate
• the basics of clinical reasoning and their applications in the approach to the patient
Be able to:
• Collect and summarize the clinical history
• Perform and describe physical examination procedures
• measure blood pressure, perform venipuncture, record and interpret an electrocardiogram

GENERAL SURGERY
• Teach the student the method for collecting the anamnesis and how to perform the objective examination of the patient.
• Knowledge of essential medical terminology.
• Symptoms, approach to symptoms, signs and syndromes. Diagnostic decisions.

LEARNING OUTCOMES

Knowledge and understanding:

- Assess the physiological principles that govern the functioning of the main body systems and the alterations induced by functional and structural anomalies.
- Describe the main signs and symptoms associated with specific clinical disorders and provide an adequate explanation of the reasons underlying them.
- Differentiate the clinical presentation from the surgical one and explain the different approaches required.
- Report a detailed anamnesis of the individual patient and underline the importance of an empathic and holistic approach.
- Present an in-depth explanation of the main diagnostic procedures necessary to obtain an accurate diagnosis.
- Study a clinical case and provide an exhaustive analysis of the possible diagnostic hypotheses.

Applying knowledge and understanding:

- Apply theoretical knowledge to the clinical context, being able to recognize the general diagnostic aspects of diseases.
- Assess the patient, underlining the results obtained from the anamnesis, the objective examination and the instrumental tests. If the mechanisms underlying these findings can be identified, the correct etiological, anatomical and physiological diagnosis can usually be deduced.
- Learn to interpret appropriate diagnostic and laboratory studies.
- Perform a thorough review of systems.
- Learn the practical aspects of the systemic, clinical and surgical physical examination and how to perform it.

Communication skills:

- Present the arguments orally in an organized and coherent manner.
- Use appropriate scientific language consistent with the topic being discussed.

Making judgements:

- Recognize the importance of a thorough knowledge of the topics consistent with proper medical training.
- Identify the benefits and adverse effects of possible diagnostic and therapeutic interventions.

Learning skills:

- Identify the possible use of the recognized skills in the future career.
- Evaluate the importance of the knowledge acquired in the overall process of medical training.

COURSE SYLLABUS

INTERNAL MEDICINE

For university students of Medicine and Surgery, the course of Semiotics and Clinical Methodology represents the first moment of practical application of the physiological and physiopathological notions acquired in the first two years of university studies. The course will deal with the methodology of approaching the patient, whether hospitalized or outpatient, with medical or surgical health problems. Attention will be focused on the physiopathological interpretation of the main signs and symptoms of disease and on the main alterations found in the objective examination. The teachers will illustrate the classic concepts of Semiotics (anamnesis, objective examination,

approach to signs and symptoms) connecting the physiopathological background with the methodology of Clinical Medicine, showing students not only the approach to signs, symptoms or diseases, but to patients as sick people.
Students will be able to learn how to collect an anamnesis, how to perform a physical examination, how to deal with the main signs and symptoms of the disease - both of medical and surgical interest - and how the diagnostic reasoning should be performed, and how and when to prescribe the main laboratory tests and instrumental tests. The main alterations (physical, laboratory and instrumental) associated with the most frequent diseases or syndromes encountered in clinical practice will be described, in order to allow students to recognize the main pathological scenarios.

GENERAL SURGERY

Anamnesis: interviews and health history. Family history, past and psychosocial, current health status, review of systems with particular attention to: weakness, dizziness, fainting, syncope, convulsions, itching, thirst, diuresis and frequency of urination, appetite, bowel habits, sexual interest and activity, fever and changes in sweating, dyspnea, palpitations, cyanosis, orthopnea, edema, cough. Physical examination

General: Approach to the patient, facial features, height, body weight, habitus, nutritional status, somatic and sexual development, posture or recumbency, sensory and mental status. Skin and related structures. Musculoskeletal system. Lymph nodes. Head and neck: eye, ear, nose, mouth, pharynx. Thyroid semiology. Physical examination of the chest and lungs: – Inspection: shape of the chest and the way it moves, including deformities or asymmetry, abnormal retractions, impaired respiratory movements or unilateral delay in that movement, abnormalities in the rate and rhythm of respiration, collateral circulation, movements of the abdomen during respiration. – Palpation: expansion of the chest, assessment of tactile thrill, spontaneous thrill, crepitus. – Percussion: percussion technique, resonance, hyperresonance, dullness, flatness, and tympany. – Auscultation: Breath sounds: vesicular, bronchovesicular, bronchial and tracheal; transmitted vocal sounds, adventitious (added) sounds: crackles, rhonchi and wheezes, pleural rub, stridor. Semeiological abnormalities of the following clinical conditions: pneumonia, pleurisy, pneumothorax, hemothorax. Objective examination of the cardiovascular system: – Inspection: careful inspection of the anterior chest, apical pulse (cardiac apex): location and characteristics. – Palpation, location and characteristics of the apical pulse (cardiac apex), abnormal movements – Percussion: estimate of cardiac size (delimitation of cardiac dullness). – Auscultation: locations, heart sounds, extrasystolic and diastolic sounds, systolic and diastolic murmurs, pericardial friction rub. Arterial pulse: assessment of heart rate and rhythm, amplitude and contour of the arterial pulse wave, murmurs and chills. Venous pulse: jugular venous pressure and contour. Measurements of arterial and venous pressure. Semeiotics of arterial and venous insufficiency, both acute and chronic, peripheral. Objective examination of the nervous system: cranial nerves, motor system, sensory system, reflexes. Semeiotics of the endocrine system: main signs and symptoms of hyper and hypo.
Objectives: Evaluation of the methods used to collect the anamnesis and physical examination of the surgical patient. Evaluation of the methods (clinical and instrumental) used to generate diagnoses as an interactive process that includes the collection of information and the generation of hypotheses. Data acquisition will begin with the main symptom, the history of the current disease, the past medical history and the results of the physical examination.

INTEGRATED TEACHING SYLLABUS

Internal Medicine
- The collection of the anamnesis and its importance in medicine.
- Vital signs and their clinical significance.

- Physical examination of the main body districts: chest, abdomen, head and neck, skin, peripheral vascular system, joints, lymph nodes, breast. Neurological examination.
- How to deal with the patient with headache, back pain, chest pain, abdominal pain, alterations in intestinal transit or diuresis, hematuria, menorrhagia or metrorrhagia, jaundice, diarrhea, constipation, nausea, vomiting, hemoptysis, cough, dyspnea, palpitations, syncope or fainting, arterial hypertension, hypotension, pruritus, fever, cyanosis, edema, acute mental confusion, coma and with multimorbidity.
- How to interpret the main clinical laboratory tests: blood count, blood glucose, uric acid, lipid metabolism, markers of renal damage and function, serum electrolytes, blood gas analysis, markers of liver function, markers of myocardial damage, hemostasis and coagulation tests, inflammatory indices, respiratory acidosis and alkalosis.
- Semiotics of the main clinical syndromes in internal medicine with some examples:
acute myocardial infarction, heart failure, acute pulmonary edema, heart valve disease, pneumonia, pleural effusion, COPD, pneumothorax, acute abdomen, cirrhosis, urinary tract infections, sepsis, shock, deep vein thrombosis and acute pulmonary thromboembolism, thyroid function, stroke, meningitis.
- Applications of artificial intelligence in diagnosis and personalized medicine
- Normal ranges of the most commonly used laboratory tests in clinical practice.

General Surgery
Pain in the surgical patient. Pain clinics: somatic pain; visceral pain; referred pain. Chest pain. Fluid and electrolyte changes; acid-base balance disorders; edema; fever; fever in the surgical patient. Recognition of symptoms that indicate the presence of a surgical emergency: pallor, dyspnea, cyanosis, pain, vomiting, disturbances of consciousness. Clinical characteristics of primary and secondary shock. Swellings: definition, objective examination. Physical examination of the breast and axillary region. Acute abdomen: clinical picture of peritonitis; differential diagnosis.
Acute pancreatitis. Ascites. Jaundice and cholestasis. Constipation and diarrhea. Intestinal obstruction: clinical, radiological and instrumental characteristics. Upper and lower digestive tract hemorrhages. Hemoperitoneum: spontaneous and traumatic. Objective examination of hernias: examination of the inguinal canal and Scarpa's triangle. Urinary disorders: Clinical and instrumental features. Hematuria, pyuria, chyluria. Notes on evidence-based surgery. Surgical pathophysiology: pathophysiological features of reflux disease. Gastric ulcer and duodenal ulcer. Pathophysiology of the biliary tract.
Portal hypertension. Pathophysiological aspects of intestinal obstruction and peritonitis. Diverticular disease and chronic inflammatory diseases of the large intestine.
Expected learning outcomes
Students will be able to collect a targeted anamnesis, perform a physical examination and recognize normal/abnormal results of different types of tests.

COURSE STRUCTURE
The teaching is structured in 40 hours of frontal teaching.
The frontal teaching includes theoretical lessons and in-depth seminars of case studies with the support of Power point slides, PDF and Word files, videos, clinical cases, quizzes.

COURSE GRADE DETERMINATION
The achievement of the training objectives will be verified with a written exam. The written test will consist of questions with multiple choice answers or open questions. The final grade will be expressed in thirtieths. The exam will be evaluated overall according to the following criteria:

Not sufficient: Poor or deficient knowledge and understanding of topics; limited ability to analyze and synthesize; frequent generalization of required contents; inability to use technical

language.

18-20: Barely sufficient knowledge and understanding of topics, with evident imperfections; barely sufficient ability to analyze, synthesize and making judgment; poor ability to use technical language.

21-23: Sufficient knowledge and understanding of topics; sufficient ability to analyze and synthesize with ability to argue the required contents, with logic and coherence; sufficient ability to use technical language.

24-26: Fair knowledge and understanding of topics; fair ability to analyze and synthesize with ability to rigorously argue the required contents; fair ability to use technical language.

27-29: Good knowledge and understanding of the required contents; good ability to analyze and synthesize with ability to rigorously argue the required contents; good ability to use technical language.

30-30L: Excellent level of knowledge and understanding of the required contents with excellent analytical and synthesis skills with the ability to rigorously, innovatively and originally argue the required content; excellent ability to use technical language.

RECOMMENDED TEXTS AND BIBLIOGRAPHY

- **Macleod's Clinical Examination 14th Edition** (also available on Amazon in the version for Kindle)
- **Seidel's Guide to Physical Examination**, By Jane W. Ball, RN, DrPH, CPNP, DPNAP, Joyce E. Dains, DrPH, JD, RN, FNP, BC, DPNAP, John A. Flynn, MD, MBA, Barry S. Solomon, MD, MPH
- Bates' Guide to Physical Examination and History-Taking By Lynn Bickley MD
- **Clinical Examination: A Systematic Guide to Physical Diagnosis** By Nicholas J. Talley MD PhD FACP FRACP FRCP, Simon O'Connor MBBS FRACP DDU
- **The Biological Basis of Modern Surgical Practice** (Expert Consult Premium Edition – Enhanced Online Features and Print) By Courtney M. Townsend, Jr., MD, R. Daniel Beauchamp, MD, B. Mark Evers, MD and Kenneth L. Mattox