### Integrated Course of Internal Medicine

#### V° ANNO

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<th>CFU 7</th>
<th>Internal Medicine and Medical Genetics</th>
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**Specific Aim**

Aim of the Internal Medicine Course is to challenge the students to case-based clinical reasoning, and to reinforce the knowledge and application of Clinical Method. Major Internistic presentations will be addressed; emphasis will be placed on the practical application of pathophysiological basis of clinical signs and symptoms, on the differential diagnostic reasoning, proceeding from the deep analysis to the general synthetic view in order to address the complexity of the clinical scenarios. A systematic nosographic list displays the core-curriculum of Internal Medicine Course: topics will be discussed emphasizing clinical reasoning basis and diagnostic proceedings.
Disease of Cardiovascular System
Hypertension, Atherosclerosis, Arrhythmias, Pulmonary Hypertension, Angina Pectoris, Acute Myocardial Infarction, Cardiogenic Shock, Valvular Diseases, Cardiomyopathies, Pericarditis, Aortic Diseases, Peripheral Vascular Diseases, Pulmonary embolism, Hearth Failure, Cerebrovascular Ischemic and Hemorrhagic Diseases.

Diseases of Respiratory System
Asthma, Chronic Obstructive Pulmonary Disease, Interstitial Pneumopathies, Pneumonias, Bronchiectasis, Cystic Fibrosis, Sarcoidosis, Pulmonary Neoplasms, Diseases of the diaphragm, chest wall, the pleura and mediastinum, Diseases of the upper airways, Respiratory failure, Tuberculosis.

Endocrine and Metabolic Diseases
Metabolic Syndrome, Diabetes Mellitus, Hypoglycemic Syndromes, Dyslipidemia, Obesity, Thinness, Parathyroid, Hypercalcaemic And Hypocalcaemic Syndromes, Osteoporosis, Pituitary (Adenomas, Acromegaly, Cushing Disease, Hypopituitarism), Diabetes Insipidus and SIADH, Thyroid (Toxic and Non Toxic Nodular Goiter, Grave's Disease, Hypothyroidism, Thyroiditis, Benign And Malignant Tumors), Adrenal Gland (Incidentalomas, Addison Disease, Conn Disease, Pheochromocytoma), Hyperandrogenism, Hypogonadism, Gout And Alterations Purine Metabolism.

Diseases of the kidneys
Acid-Base and Electrolytes Disturbances, Primitive Glomerular Diseases, Secondary Glomerular Diseases (Metabolic and Autoimmune), Urinary Tract Infections and Pyelonephritis, Tubulopathies, Vascular Diseases of the Kidney, Kidney Stones (Nephrolithiasis), Acute Renal Insufficiency, Chronic Kidney Disease.

Diseases of the Gastrointestinal System

Diseases of the Blood
Clinical and Diagnostic Classification of Anemia, Myeloproliferative Diseases, Acute Leukemias, Malignant Lymphomas, Plasma Cell Disorders, Chronic Lymphoproliferative Syndromes, Bone Marrow Transplantation, Hemostasis and Coagulation Disorders.

Medical Genetics
The genetic inter-individual variability and the concepts of polymorphism and mutation. Principal types of genetic polymorphisms. Haplotypes.

Methodological Approaches to study inter-individual genetic variability and to identify genes involved in Complex Multifactorial Disease Susceptibility and drug response (Candidate gene approach, Genome Wide...
Medical Oncology

General Learning Objectives

The general objectives of the course are to understand the basic scientific principles related to cancer and its treatment, and to ensure that the student acquires clinical competence in the investigation and management of neoplastic diseases.

Specific Learning Objectives

- Epidemiology of cancer, including risk factors
- Carcinogenesis, cancer growth and proliferation, cancer immune tolerance
- Basic scientific knowledge, including molecular biology, biochemistry, pathophysiology, pharmacology, growth kinetics, genetics, endocrinology and immunology, as they relate to the understanding of cancer and its diagnosis and treatment
- Assessment and investigations of patients with cancer, including history, physical examination, laboratory and imaging techniques
- Performance Status Evaluation (Karnofsky and ECOG scores)
- Tumour staging
- Response Evaluation Criteria In Solid Tumours (RECIST)
- Principles of therapy of oncological diseases and clinical effects of therapeutic approaches used:
  - Cytotoxic approach: therapeutic aims (neoajuvant, adjuvant, palliative approaches)
  - Radiotherapy
  - Targeted Therapies
  - Immune anti-cancer agents
  - Supportive care
  - Drug resistance
- Management of medical emergencies and complications resulting from cancer or its treatment.

Medical Genetics

The concept of genomic biomarker
Different types of genetic testing and their correct use in clinical practice.
Concept of Analytical Validity, Clinical Validity and Clinical Utility for Genomic Biomarkers
Extension and exceptions to Mendel’s laws.
Genetic counselling, pedigree analysis, empiric risk
Genetics in multifactorial traits and complex diseases
Medical Genomics

- Cancer genomics and personalized medicine:
  - Hereditary cancer syndrome:
    - Hereditary breast cancer and ovarian cancer syndrome (HBOC)
    - Lynch syndrome (Hereditary nonpolyposis colorectal cancer)
  - Cancer genetic counseling

Pharmacogenetics testing and clinical utility: various illustrative examples in details of application of Pharmacogenomics in safety and efficacy of drugs in different fields:
- Oncology (Pharmacogenetics of: Irinotecan, Tamoxifen, Cetuximab, Herbitux..)
- Cardiovascular diseases (Warfarin, Statins)
- Infectious diseases (Hiv: Abacavir and severe adverse reactions; HCV:Peg Interferon efficacy and IL28 polymorphisms.)
- Pharmacogenetics Therapy of pain and anaesthesia
Applications of PGx in Drug Discovery and Clinical Trials and in Pharmacovigilance
From Genotyping to Drug Label-Challenges
Pharmacogenomics; The Regulatory Environment.
CORSO DI LAUREA MAGISTRALE IN MEDICINA E CHIRURGIA
GUIDA DELLO STUDENTE 2015-2016

PROGRAM

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Textbooks

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La Commissione per gli esami di profitto del corso integrato è composta dai Presidente, dai Titolari delle discipline afferenti, dai Docenti di discipline affini e dai Cultori della materia.

Sbraccia Paolo (Presidente)
Francesca Amati
Alberto Bergamini
Aldo Bertoli
Annalisa Botta
Giovanni Di Cola
Massimo Federici
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<td>David Della Morte</td>
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<td>Maria Adelaide Marini</td>
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<td>D'Adamo Monica</td>
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<td>Francesco Torino</td>
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