



UNIVERSITÀ DEGLI STUDI DI PALERMO

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| DEPARTMENT | Biomedicina, Neuroscienze e Diagnostica avanzata | | |
| ACADEMIC YEAR | 2020/2021 | | |
| MASTER'S DEGREE (MSC) | MEDICINE AND SURGERY | | |
| INTEGRATED COURSE | PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - INTEGRATED COURSE | | |
| CODE | 17453 | | |
| MODULES | Yes | | |
| NUMBER OF MODULES | 3 | | |
| SCIENTIFIC SECTOR(S) | MED/09, MED/49 | | |
| HEAD PROFESSOR(S) | BUSCEMI SILVIO | Professore Ordinario | Univ. di PALERMO |
| OTHER PROFESSOR(S) | LICATA ANNA | Professore Associato | Univ. di PALERMO |
| | SORESÌ MAURIZIO | Professore Associato | Univ. di PALERMO |
| | LO PRESTI ROSALIA | Professore Associato | Univ. di PALERMO |
| | MANSUETO PASQUALE | Professore Associato | Univ. di PALERMO |
| | GIANNITRAPANI LYDIA | Professore Associato | Univ. di PALERMO |
| | PARRINELLO GASPARE | Professore Associato | Univ. di PALERMO |
| | BUSCEMI SILVIO | Professore Ordinario | Univ. di PALERMO |
| CREDITS | 9 | | |
| PROPAEDEUTICAL SUBJECTS | 05548 - GENERAL PATHOLOGY - INTEGRATED COURSE 03380 - HUMAN PHYSIOLOGY - INTEGRATED COURSE | | |
| MUTUALIZATION | | | |
| YEAR | 3 | | |
| TERM (SEMESTER) | 1° semester | | |
| ATTENDANCE | Mandatory | | |
| EVALUATION | Out of 30 | | |
| TEACHER OFFICE HOURS | <p>BUSCEMI SILVIO Tuesday 08:00 09:30 UOC di Endocrinologia, Malattie del Ricambio e della Nutrizione (piazza delle cliniche 2 - primo piano) - PREVIA RICHIESTA a silvio.buscemi@unipa.it</p> <p>GIANNITRAPANI LYDIA Friday 12:30 14:00 Clinica Medica IIPoliclinico, Palermo</p> <p>LICATA ANNA Thursday 12:00 14:00 Clinica Medica I, Dibimis</p> <p>LO PRESTI ROSALIA Wednesday 12:00 13:00 In videocomunicazione nel team "Lo Presti - ricevimento studenti" tramite il seguente link: https://teams.microsoft.com/l/team/19%3a7ea36b9dece4f75872b17fdb5d064c7%40thread.tacv.conversations?groupId=130083c8-0c83-4751-8397-c34b149b3796&tenantId=bf17c3fc-3ccd-4f1e-8546-88fa851t</p> <p>MANSUETO PASQUALE Monday 12:00 13:00 Centro Ipertensione (Prof. GB Rini), piano -1</p> <p>PARRINELLO GASPARE Monday 11:00 13:00 Dibimis Thursday 11:00 13:00 Dibimis</p> <p>SORESÌ MAURIZIO Monday 12:30 14:00 Di.Bi.M.I.S via del Vespro 141</p> | | |

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| PREREQUISITES | Adequate knowledge of anatomy and physiology of circulatory, respiratory, endocrine, renal and gastrointestinal systems; bases of general pathology, genetics, biology, microbiology, general epidemiology. |
| LEARNING OUTCOMES | <p>Knowledge and Understanding Capacity At the end of the course the students will be able to:</p> <ul style="list-style-type: none">-knowing the theoretical principles underlying the clinical method and evidence-based medicine- to correctly execute a complete clinical history, which also includes the social context in which the patient lives- to be able to relate with the patient in the most varied environmental conditions, both in election and in urgency- to perform a correct and complete objective examination of the patient, which includes both the general and systemic aspects and the individual organs and apparatus-be able to approach patients suffering from the following signs and syndromes: chest pain, dyspnoea, acute abdominal pain, digestive haemorrhage, jaundice, changes in diuresis- to detect and critically interpret the main symptoms and signs and identify the most correct and appropriate clinical and instrumental diagnostic pathway <p>Ability to Apply Knowledge and Understanding Students will be able to integrate the acquired knowledge with a critical attitude oriented to the resolution of identification, diagnostic and therapeutic questions, through the choice of the most suitable clinical and laboratory methodologies.</p> <p>Autonomy of judgment Students will be able to rationally and autonomously evaluate the knowledge provided by the course and will be able to set up a clinical reasoning based on the evidence and information derived from the physical examination of the patient.</p> <p>Communication skills Acquisition of communication skills gained through the oral examination and the habit of presenting in public the clinical experiences acquired during the internship. The students will know how to apply and clearly transmit the</p> <p>Learning skills Continuous updating capacity through the knowledge of the methods of consulting the sources of information (scientific publications, databases and IT resources) related to clinical medicine applied to the issues of research and diagnosis of the medical sector.</p> |
| ASSESSMENT METHODS | <p>Evaluation of the knowledge of curricular contents by means of an oral exam to verify the possession of the skills and disciplinary knowledge reached. The oral exam consists of a colloquy generally lasting 20-30 minutes aimed at ascertaining the disciplinary knowledge of the program. The evaluation is expressed in thirtieths.</p> <p>The following is the evaluation scheme:</p> <ul style="list-style-type: none">a) 30-30 cum laude Excellent knowledge of teaching content; the student demonstrates high analytical-synthetic capacity and is able to apply the knowledge to solve problems of high complexity;b) 27-29 Excellent knowledge of teaching contents and excellent language properties; the student demonstrates analytical-synthetic skills and is able to apply the knowledge to solve problems of average complexity and, in some cases, even high;c) 24-26 Good knowledge of teaching contents and good language skills; the student is able to apply the knowledge to solve problems of average complexity;d) 21-23 Fair knowledge of the contents of the teaching, in some cases limited to the main topics; acceptable ability to use the specific language of the discipline and to independently apply the acquired knowledge;e) 18-20 Minimum knowledge of the contents of the course, often limited to the main topics; modest ability to use the specific language of the discipline and to autonomously apply the acquired knowledge Insufficient;f) Does not possess an acceptable knowledge of the main contents of the teaching; very little or no ability to use the specific language of the discipline and to independently apply the acquired knowledge. <p>The final grade results from the arithmetic average of the marks obtained in the two modules of the integrated course</p> |
| TEACHING METHODS | Frontal teaching; training in the ward |

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| PREREQUISITES | Adequate knowledge of the anatomy and physiology of circulatory, respiratory, endocrine, renal and gastrointestinal systems; Basics of general pathology, genetics, biology, microbiology, general epidemiology. |
| LEARNING OUTCOMES | <p>Knowledge and understanding</p> <p>After completing the course, students will be able to:</p> <ul style="list-style-type: none">- to know the principles of clinical evidence and evidence-based medicine- to properly assess a complete clinical history, including the collection of information on the social context in which the patient lives- to approach the patient in different environmental conditions, both in non urgent and urgent care settings- to perform a comprehensive and accurate physical exam focusing on individual organs and apparatus- be able to approach patients with the following signs and syndromes: digestive hemorrhage, acute abdominal pain, chest pain, jaundice, dyspnoea, disturbances of diuresis, urination, and alvus- to critically distinguish and interpret symptoms and signs in order to identify the most appropriate clinical and instrumental diagnostic approach <p>Making judgments</p> <p>Students will be able to evaluate in a logical and autonomous manner the knowledge provided by the course and will be able to face different issues related to clinical reasoning through an evidence based approach and the information derived from the physical examination of the patient</p> <p>Communication</p> <p>Acquisition of communicative skills acquired through the oral examination and the public presentation of clinical experiences acquired during the internship. Students will apply and clearly convey the acquired knowledge in verbal form.</p> <p>Learning skills</p> <p>Ability of continuous learning through the consultation of information resources (scientific publications, databases and IT resources) in the field of clinical medicine.</p> |
| ASSESSMENT METHODS | <p>Evaluation of the knowledge through oral examination.</p> <p>The oral exam consists in general of 20-30 minute interview aimed at evaluate the knowledge of the program of the courses. The evaluation is expressed in a grading scale up to thirty. The evaluation scheme is as follow: a) 30 and 30 cum laude, excellent knowledge of the contents of the courses; The student demonstrates high analytical-synthetic capabilities and is able to apply the acquired knowledge for solving problems of high complexity; b) 27-29, excellent knowledge of the teaching content and excellent language skills; The student demonstrates analytical-synthetic skills and can apply knowledge to solve complex problems;</p> <p>c) 24-26, good knowledge of teaching content and good language skills; The student is able to solve problems of medium complexity; d) 21-23, Discreet knowledge of the content of teaching, in some cases limited to the main topics; Acceptable ability to use the specific language of the disciplines and to apply the acquired knowledge independently; E) 18-20, Minimum knowledge of the content of teaching, often limited to the main topics; Modest ability to use the specific language of the discipline and low grade of autonomy; F) Does not have an acceptable knowledge of the main contents of the teaching; Very little or no ability to use the specific language of the discipline and to apply the acquired skills independently.</p> <p>The final mark is the arithmetic mean of the marks of the two teaching modules</p> |
| TEACHING METHODS | Frontal lessons; ward internship |

MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE II

Prof. GASPARRE PARRINELLO - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Pontieri
Fisiopatologia Generale
McCance KL
Fisiopatologia ed elementi di Patologia Generale
Macleod
Manuale di semeiotica e metodologia medica
Harrison's
Principi di Medicina Interna -
McCance
Fisiopatologia ed elementi di patologia generale. EDRA

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| AMBIT | 50416-Clinica generale medica e chirurgica |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

Based on the knowledge of the biochemical mechanisms of the functioning of the organs and the alterations of these mechanisms, the student will have to understand, and recognize, in the specific conditions, the macroscopic causes of the alterations of the organs and systems involved in the disease under investigation. In addition, the student will be instructed to collect general anamnestic information, define the symptoms, set clinical problems, compile the clinical documents (folder etc.) and to know and perform the semeiological maneuvers of the single apparatuses useful for the definition, through the signs of the patient's health and / or disease conditions and to interpret the data in the light of the scientific evidence available according to the evidence-based methodology of medicine. The specific objective of the module will be to deepen the themes of clinical physiopathology with reference to pathologies of general and international interest and to integrate the information acquired with an evidence-based methodology scientific information available. Thus the various phases of the clinical approach will be analyzed, from the evaluation of symptoms and signs to biochemical and instrumental support in order to introduce the student to ways of recognizing pathologies. For such reason through the knowledge of the general pathophysiology and of the single apparatuses, in the light of the definition of the mechanisms pathogenetic of individual diseases, the student will have to carry out an initial process of clinical reasoning in order to understand the superficial mechanisms of the diagnostic procedure.

SYLLABUS

| Hrs | Frontal teaching |
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| 2 | introduction to the course, concept of health and disease, the fever |
| 2 | endothelium and endothelial function |
| 2 | anamnesis |
| 2 | physical examination and medical record |
| 2 | pathophysiology of ischemic heart disease |
| 2 | pathophysiology of arterial hypertension |
| 2 | pathophysiology of heart failure and structural remodeling |
| 2 | pathophysiology of liver cirrhosis |
| 2 | abdominal semeiotics |
| 2 | pathophysiology of electrolyte disorders |
| 2 | pathophysiology and methodology of the respiratory system |
| 2 | pathophysiology of renal failure |

MODULE PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE I

Prof. MAURIZIO SORESI - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Pontieri Fisiopatologia Generale Ed Piccin
 Macleod, Manuale di Semeiotica e Metodologia Medica. Edizioni Edra C. Rugarli: Medicina Interna Sistemica - Ed. Masson
 C. Rugarli: Medicina Interna Sistemica - Ed. Masson
 Harrison's : Principi di Medicina Interna - Ed. McGraw Hill

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| AMBIT | 50416-Clinica generale medica e chirurgica |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

Starting from the biochemical mechanisms of the functioning of the organs and the alterations of these mechanisms, the student will have to understand and recognize the causes of the alterations of the organs and systems involved in the disease under investigation. The student will be explained how to: collect the anamnesis, define symptoms, compile the clinical documents (folder etc.) and perform the semiological maneuvers of the individual devices useful for defining the patient's health and / or disease conditions. The student will be instructed to interpret the data in relation to the available scientific evidence according to the methodology of evidence-based medicine. The specific objective of the module will be to deepen the themes of clinical methodology with reference to pathologies of general and internal interest and to integrate the information acquired with a methodology based on the scientific evidence available. Some physiopathological aspects of some pathologies will also be addressed in relation to the methodological approach

SYLLABUS

| Hrs | Frontal teaching |
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| 4 | The history: Family, Personal physiological, occupational, pathological General physical examination. Facies, decubitus, sensory, general somatic conformation, nutrition and hydration status, state of blood formation, skin pigmentation, skin annexes, superficial lymph node apparatus, osteoarticular apparatus, trophism and muscular tone. |
| 3 | Signs and symptoms. Fever, pain, coughing, cyanosis, edema, dyspnea, dysphagia, vomiting, diarrhea, etc. The clinical diagnosis. Evidence Based Medicine-EBM. The oriented to problems medical record. |
| 3 | Respiratory diseases semiotics and methodology: History oriented to respiratory disorders. Physical examination of the thoracic region: inspection, palpation, percussion and auscultation. Notes on laboratory and instrumental methods useful in the diagnosis of respiratory disorders. |
| 3 | Pathophysiology of: Obstructive bronchopneumopathies (asthma, chronic bronchitis, emphysema), Restrictive bronchopneumopathies; Chronic pulmonary heart. Pathophysiology of pulmonary embolism. Respiratory failure |
| 2 | Pathophysiology of edema, effusions (ascites and pleural effusion). Edematous and anasarca states. Nephrotic syndrome. Notes on laboratory and instrumental methods useful in the diagnosis |
| 6 | Gastrointestinal tract and liver diseases semiotics and methodology. Jaundice, ascites, portal hypertension. Physical examination of the abdominal region: inspection, palpation, percussion and auscultation. Notes on laboratory and instrumental methods useful in the diagnosis. Pathophysiology of malabsorption syndrome |
| 2 | Kidney diseases semiotics and methodology. History oriented to kidney diseases. Urine analysis and interpretation of urine and sediment characteristics. Pathophysiology of acute and chronic renal failure |
| 4 | Pathophysiology Semiotics and methodology . Diabetes and its complications |
| 2 | Clinical methodology of dyslipemias |
| 1 | Pathophysiology of Inherited and acquired bleeding disorders. The Coagulation cascade. Abnormalities of platelet count and function. Thrombosis, embolism and their related damage. The Virchow triad |

MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE II

Prof. PASQUALE MANSUETO - Sede HYPATIA, - Sede HYPATIA

SUGGESTED BIBLIOGRAPHY

Harrison's : Principi di Medicina Interna - Ed. McGraw Hill
C. Rugarli: Medicina Interna Sistemica - Ed. Masson
Pontieri: Fisiopatologia – Ed. Piccin

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| AMBIT | 50416-Clinica generale medica e chirurgica |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

The student will understand and recognize the causes and dynamics of changes in organs and systems involved in the disease. The student will use the knowledge of the biochemical and biophysical mechanisms of functioning of organs, as well as the knowledge gained from physiology. In particular, the student must acquire the ability to recognize the ways that cause the development of alterations in different organs and systems. The student will know to explain why the symptoms, signs, clinical manifestations, natural history and evolution of the complications of the individual diseases. The student will also have the opportunity to understand the mechanisms of action of pharmacological and non-pharmacological therapeutic measures.

SYLLABUS

| Hrs | Frontal teaching |
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| 4 | The Hyponatremia. The Hypernatremia.. Edema. Renal impairment. Acute Renal Failure. Chronic Renal Failure. |
| 4 | Causes and mechanisms of Heart Failure. Pathophysiology of pulmonary edema. Effects of Heart Failure on the different organs and apparatus. |
| 4 | Arterial hypertension. Atherosclerosis. Complications of atherosclerosis. |
| 4 | Causes and mechanisms of liver disease. The Hepatic Insufficiency. Hepatic Fibrosis. The Liver Cirrhosis. |
| 3 | The acid-base balance. Alterations in calcium-phosphorus metabolism. |
| 4 | Diabetes mellitus. Pathogenetic mechanisms of diabetes type 1 and type 2. Complications of diabetes mellitus. |
| 3 | Regulation of the endocrine system. Alterations in the production and metabolism of peptide hormones and steroid hormones. |

MODULE
APPLIED DIETETIC TECHNICAL SCIENCES

Prof. SILVIO BUSCEMI - Sede CHIRONE, - Sede CHIRONE

SUGGESTED BIBLIOGRAPHY

Dispense; selezione di articoli della letteratura scientifica
Binetti, Marcelli, Baisi: Manuale di nutrizione clinica e scienze dietetiche applicate Edizione SEU.
Liguri: Nutrizione e dietologia. Zanichelli.

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| AMBIT | 50407-Formazione clinica interdisciplinare e medicina basata sulle evidenze |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

The aim of the course aims is to provide knowledge about the relationships between diet, lifestyle and the main diseases of interest for dissemination, including the aspects of pathophysiology, diagnostic methods and treatment in the clinical nutrition field.

The course also aims to provide the cultural tools, including survey methodologies and data communications, for activities intervention in nutrition comprehensive of educational programs and campaigns aimed at promoting healthy lifestyles.

SYLLABUS

| Hrs | Frontal teaching |
|-----|---|
| 1 | The concept of Diet - Nutrition, diet and nutrigenomics (the genotype-environment-food interaction) - The eating in the cultural evolution of man. Biosocial approach to diet (the street food phenomenon) |
| 1 | The body size, measures of adiposity, measures of body fat distribution (main methods) |
| 2 | Body composition (two-, three-, four- compartments models). Methods of assessing body composition (hydrostatic weighing, skinfold thickness, impedance, isotope dilution methods, DEXA). Bioelectric phase angle, impedance vector analysis (BIVA). |
| 1 | Body fat: fat distribution profiles and clinical and nutritional significance. Methods for the assessment of body fat distribution (body circumferences, ultrasound, CT, NMR) |
| 2 | Areas of particular interest in clinical nutrition: definitions and objectives (hypertension, type 1 diabetes, type 2 diabetes, dyslipidemia, metabolic syndrome, insulin resistance, renal failure). |
| 1 | Nutrients and nutritional needs; definition of nutritional adequacy; the RDAs. The nutrients and energy substrates (carbohydrates, lipids, proteins, alcohol). Certain foods (nutritional characteristics and properties): meat, fish, oil and fat dressing, wine, dairy products, fruits and vegetables, bread, pasta and cereals) |
| 2 | The energy balance and its components: the intake and appetite control, the expenditure (resting energy expenditure and basal metabolism, diet-induced thermogenesis and post-prandial thermogenesis, regulatory thermogenesis, adaptive thermogenesis, physical activity and exercise thermogenesis). Mechanisms of increased energy efficiency. Adipose tissue trans-differentiation and brown adipose tissue, the FTO gene, the Irisin |
| 1 | Methods for the assessment of energy intake. Diet history: a) detection techniques of food consumption (the methods of record and recall), b) the food frequency questionnaires (FFQ for the local population) |
| 1 | Methods for measurement of energy expenditure: direct and indirect calorimetry, pedometer, questionnaires. Predictive equations for estimating energy expenditure. |
| 2 | the metabolic fate of foods. oxidative and non-oxidative utilization of energy substrates (the Respiratory Quotient and Respiratory Quotient not Protein). |
| 2 | Mechanisms mediating the interaction diet-diseases with special reference to diabetes, atherosclerotic cardiovascular disease, cancer. Oxidative stress, anti-oxidants, endothelial function, aging. The dietary anti-oxidants (coffee, tea, chocolate, vegetables, fruit, wine) |
| 1 | quality nutritional indices. The glycemic index of foods and the glucose load (definitions, methods, clinical implications) |
| 2 | Modern dietetics, some studies: Seven Country Study and the Mediterranean Diet, the Diabetes Prevention Program (DPP) and the Medical Nutritional Treatment, The Lyon Heart Study, the PREDIMED study, the EPIC study. |
| 2 | The model of the Mediterranean Diet. Diets (low calorie, low sugar, low fat, low protein, DASH, celiac disease, lactose-intolerant people). The chetogenic diet |
| 2 | Effectiveness of medical-nutritional treatment of obesity (short, medium and long term success predictors). The drugs in the treatment of obesity, new evidence: the study SCALE. |
| 1 | The ABCD project (Diet, Cardiovascular Wellness and Diabetes). |
| 1 | Strategies of nutritional intervention in the population: The case homocysteine: risk of thrombosis, dementia, fractures The case of iodine: risk of goitre |
| 1 | The sarcopenic syndrome and syndrome of fragility in the elder. Malnutrition and cachexia. |

MODULE
APPLIED DIETETIC TECHNICAL SCIENCES

Prof. SILVIO BUSCEMI - Sede HYPATIA, - Sede HYPATIA

SUGGESTED BIBLIOGRAPHY

Dispense; selezione di articoli della letteratura scientifica
Binetti, Marcelli, Baisi: Manuale di nutrizione clinica e scienze dietetiche applicate Edizione SEU.
Liguri: Nutrizione e dietologia. Zanichelli.

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| AMBIT | 50407-Formazione clinica interdisciplinare e medicina basata sulle evidenze |
| INDIVIDUAL STUDY (Hrs) | 45 |
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The aim of the course aims is to provide knowledge about the relationships between diet, lifestyle and the main diseases of interest for dissemination, including the aspects of pathophysiology, diagnostic methods and treatment in the clinical nutrition field.

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SYLLABUS

| Hrs | Frontal teaching |
|-----|---|
| 1 | The concept of Diet - Nutrition, diet and nutrigenomics (the genotype-environment-food interaction) - The eating in the cultural evolution of man. Biosocial approach to diet (the street food phenomenon) |
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| 2 | The energy balance and its components: the intake and appetite control, the expenditure (resting energy expenditure and basal metabolism, diet-induced thermogenesis and post-prandial thermogenesis, regulatory thermogenesis, adaptive thermogenesis, physical activity and exercise thermogenesis). Mechanisms of increased energy efficiency. Adipose tissue trans-differentiation and brown adipose tissue, the FTO gene, the Irisin |
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| 2 | the metabolic fate of foods. oxidative and non-oxidative utilization of energy substrates (the Respiratory Quotient and Respiratory Quotient not Protein). |
| 2 | Mechanisms mediating the interaction diet-diseases with special reference to diabetes, atherosclerotic cardiovascular disease, cancer. Oxidative stress, anti-oxidants, endothelial function, aging. The dietary anti-oxidants (coffee, tea, chocolate, vegetables, fruit, wine) |
| 1 | quality nutritional indices. The glycemic index of foods and the glucose load (definitions, methods, clinical implications) |
| 2 | Modern dietetics, some studies: Seven Country Study and the Mediterranean Diet, the Diabetes Prevention Program (DPP) and the Medical Nutritional Treatment, The Lyon Heart Study, the PREDIMED study, the EPIC study. |
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MODULE
APPLIED DIETETIC TECHNICAL SCIENCES

Prof. SILVIO BUSCEMI - Sede IPPOCRATE, - Sede IPPOCRATE

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Liguri: Nutrizione e dietologia. Zanichelli.

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| 1 | Body fat: fat distribution profiles and clinical and nutritional significance. Methods for the assessment of body fat distribution (body circumferences, ultrasound, CT, NMR) |
| 2 | Areas of particular interest in clinical nutrition: definitions and objectives (hypertension, type 1 diabetes, type 2 diabetes, dyslipidemia, metabolic syndrome, insulin resistance, renal failure). |
| 1 | Nutrients and nutritional needs; definition of nutritional adequacy; the RDAs. The nutrients and energy substrates (carbohydrates, lipids, proteins, alcohol). Certain foods (nutritional characteristics and properties): meat, fish, oil and fat dressing, wine, dairy products, fruits and vegetables, bread, pasta and cereals) |
| 2 | The energy balance and its components: the intake and appetite control, the expenditure (resting energy expenditure and basal metabolism, diet-induced thermogenesis and post-prandial thermogenesis, regulatory thermogenesis, adaptive thermogenesis, physical activity and exercise thermogenesis). Mechanisms of increased energy efficiency. Adipose tissue trans-differentiation and brown adipose tissue, the FTO gene, the Irisin |
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| 1 | The ABCD project (Diet, Cardiovascular Wellness and Diabetes). |
| 1 | Strategies of nutritional intervention in the population: The case homocysteine: risk of thrombosis, dementia, fractures The case of iodine: risk of goitre |
| 1 | The sarcopenic syndrome and syndrome of fragility in the elder. Malnutrition and cachexia. |

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| 4 | Hospital malnutrition. Enteral and parenteral nutrition. Nutraceutical: the 'healing food'. |
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MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE I

Prof.ssa ANNA LICATA - Sede CHIRONE, - Sede CHIRONE

SUGGESTED BIBLIOGRAPHY

Metodologia clinica – B. Tarquini-Il nuovo Rasario (Idelson) - R.Nuti- Semeiotica medica (Minerva medica) EBM - L.Pagliaro- Medicina basata sulle evidenze (Il Pensiero Scientifico) - L. Pagliaro et al- La Diagnosi in medicina (Cortina Editore) - Lisa Sanders-Ogni paziente racconta la sua storia (Einaudi)

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| AMBIT | 50416-Clinica generale medica e chirurgica |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

The course of Medical Methodology is aimed to help the student to develop a method of reasoning and work based on scientific evidences and the rational and critical use of information collected through patient physical examination, instrumental and laboratory methodologies together with the literature data (traditional and computer updating sources). The acquisition of the clinical method will allow the student to critically organize the basic knowledge already acquired and those he/she will learn in the clinical triennium of the School of medicine in order to formulate a diagnosis and decide for evidence based treatments.

SYLLABUS

| Hrs | Frontal teaching |
|------------|---|
| 2 | Aims of the the clinical methodology. Doctor-patient communication. Clinical history as diagnostic tool |
| 2 | Oriented clinical record. General clinical examination |
| 2 | Clinical diagnosis |
| 2 | Clinical judgement |
| 2 | The medical error |
| 2 | Cardiovascular clinical examination |
| 2 | Chest examination |
| 2 | Abdomen examination |
| 2 | Mental status evaluation and neurologic clinical exam |
| 2 | Clinical methodology of kidney diseases: acute and chronic renal failure |
| 2 | Clinical methodology approach to anemias |
| 2 | Clinical methodology of lipid transport disorders |
| 2 | Methodological approach to daibtes and its complications: diabetic ketoacidosis, hyperglycemic hyperosmolar state. Gestational diabetes |
| 2 | Approach to disorders of Acid-Base Balance |
| 2 | Methodological approach to rare diseases |

MODULE PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE I

Prof.ssa LYDIA GIANNITRAPANI - Sede HYPATIA, - Sede HYPATIA

SUGGESTED BIBLIOGRAPHY

Graham Douglas, Fiona Nicol, Colin Robertson. Macleod, Manuale di Semeiotica e Metodologia Medica. Tredicesima edizione. Edizioni Edra

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| AMBIT | 50416-Clinica generale medica e chirurgica |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

Starting from the knowledge of the biochemical and biophysical mechanisms of the organs' functions and the alterations of these "microscopic" or "basic" mechanisms, the student will understand, and acknowledge, in the specific practical conditions, the causes of macroscopic changes in organs and systems involved in the disease object of investigation.

In addition, the student is instructed to ascertain the general medical history information, to define the symptoms, set the clinical problems compiling medical records and to learn and perform the semiotic maneuvers of the individual apparatus useful for the definition, through the clinical signs, of the state of health and/or disease of the subject as well as to interpret the data in the light of available scientific evidence according to the methodology of the evidence-based medicine.

A module-specific objective will be to study issues of clinical methodology in terms of diseases of general and internal medicine interest and to integrate information acquired through a methodology based on available scientific evidence.

Individual clinical approach phases, evaluation of symptoms and signs, biochemical and instrumental support will be analyzed in order to introduce the students to the methods of recognition of the diseases that they have already studied in previous courses. For this reason, through the knowledge of the general methodology and of the individual apparatus, in the light of the definition of the pathogenic mechanisms of the individual diseases, the student, should start an initial clinical reasoning process in order to understand the surface mechanisms of the diagnostic workup.

SYLLABUS

| Hrs | Frontal teaching |
|-----|---|
| 2 | Kidney diseases semiotics and methodology. History oriented to kidney diseases. Urine analysis and interpretation of urine and sediment characteristics. |
| 3 | Respiratory diseases semiotics and methodology: History oriented to respiratory disorders. Physical examination of the thoracic region: inspection, palpation, percussion and auscultation. Notes on laboratory and instrumental methods useful in the diagnosis of respiratory disorders. |
| 4 | The history: Family, Personal physiological, occupational, pathological General physical examination. Facies, decubitus, sensory, general somatic conformation, nutrition and hydration status, state of blood formation, skin pigmentation, skin annexes, superficial lymph node apparatus, osteoarticular apparatus, trophism and muscular tone. |
| 2 | Signs and symptoms. Fever, pain, coughing, cyanosis, edema, dyspnea, dysphagia, vomiting, diarrhea, etc. The clinical diagnosis. The oriented to problems medical record. |
| 3 | Hypertension. Semiotics of vessels and peripheral pulses. Notes on laboratory and instrumental methods useful in the diagnosis of cardiovascular diseases. |
| 3 | Semiotics and methodology of metabolic diseases. Diabetes, dyslipidemia, gout. |
| 3 | Symptomatology and cardiovascular methodology. History oriented to the cardiovascular diseases. Physical examination of the precordial region: inspection, palpation, percussion and auscultation. |
| 3 | Gastrointestinal tract and liver diseases semiotics and methodology. Jaundice, ascites, portal hypertension. Physical examination of the abdominal region: inspection, palpation, percussion and auscultation. Notes on laboratory and instrumental methods useful in the diagnosis of liver diseases with particular reference to cirrhosis and its complications. |
| 2 | Endocrin diseases semiotics and methodology: anterior pituitary, thyroid and parathyroid, adrenal cortex and the adrenal medulla disorders. |
| 2 | Semiotics of the haemopietic organs. Analysis of the signs and symptoms of anemia, polycythemia, mieloproliferative and lymphomatous conditions. Critical exam of the blood count analysis. |
| 3 | The Evidence Based Medicine-EBM |

MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE II

Prof.ssa ROSALIA LO PRESTI - Sede CHIRONE, - Sede CHIRONE

SUGGESTED BIBLIOGRAPHY

Pontieri – Russo – Frati. Patologia Generale e Fisiopatologia. Piccin Editore
Rugarli. Medicina Interna Sistematica. Masson Editore
Harrison's Principles of Internal Medicine. McGraw-Hill Education

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| AMBIT | 50416-Clinica generale medica e chirurgica |
| INDIVIDUAL STUDY (Hrs) | 45 |
| COURSE ACTIVITY (Hrs) | 30 |

EDUCATIONAL OBJECTIVES OF THE MODULE

Knowledge of the main pathophysiological mechanisms regarding the cardiovascular and respiratory systems, the kidney, the liver, the glucose metabolism, the fluid, electrolyte and acid-base balance. Ability to recognize the links between the systems cited above during diseases, and to identify the pathophysiological basis of the main manifestations of diseases.

SYLLABUS

| Hrs | Frontal teaching |
|------------|---|
| 2 | Pathophysiology of arterial hypertension |
| 2 | Pathogenesis of atherosclerosis |
| 1 | Pathophysiology of atherosclerotic diseases |
| 2 | Pathophysiology of arterial and venous thrombosis |
| 1 | Pulmonary and systemic embolism |
| 2 | Pathophysiology of heart failure |
| 2 | Pathophysiology of acute kidney injury |
| 2 | Pathophysiology of chronic renal failure |
| 2 | Pathophysiology of liver diseases |
| 2 | Respiratory pathophysiology |
| 1 | Disorders of ventilation |
| 2 | Respiratory failure |
| 2 | Pathophysiology of diabetes mellitus |
| 2 | Disorders of fluid and sodium physiology |
| 1 | Acid-base disorders |
| 2 | Hypokalemia and hyperkalemia |
| 2 | Disorders of mineral metabolism |