



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Biomedicina, Neuroscienze e Diagnostica avanzata		
ACADEMIC YEAR	2024/2025		
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
	MANSUETO PASQUALE	Professore Associato	Univ. di PALERMO
	LO PRESTI ROSALIA	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%3a7ea36b9decef4f75872b17fdb5d064c7%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>		

<p>PREREQUISITES</p>	<p>Adequate knowledge of anatomy and physiology of the circulatory, respiratory, endocrine, renal and gastrointestinal systems; bases of general pathology, genetics, biology, microbiology, general epidemiology, biochemistry and metabolism</p>
<p>LEARNING OUTCOMES</p>	<p>Knowledge and understanding At the end of the course, students will be able to: -know the theoretical principles underlying the clinical method and evidence-based medicine -know how to correctly perform a complete clinical history, including nutritional aspects, which includes also the social context in which the patient lives -knowing how to deal with the patient in the most varied environmental conditions, both in election and in urgency -know how to perform a correct and complete physical examination of the patient, which includes both the general and systemic aspects and the individual organs and systems, and of the nutritional status; -be able to approach patients with the following signs and syndromes: digestive haemorrhage, acute abdominal pain, chest pain, jaundice, dyspnoea, changes in diuresis, urination and bone, excess and deficiency malnutrition; -knowing how to critically detect and interpret the main symptoms and signs and identify the most correct and appropriate clinical and instrumental diagnostic path, including the correct evaluation and classification of the nutritional status. Ability to apply knowledge and understanding Students will be able to integrate the acquired knowledge with a critical attitude aimed at solving identification, diagnostic and therapeutic questions, through the choice of the most suitable clinical and laboratory methodologies, including understanding the problems of nutrition and clinical nutrition in pathophysiology and in the clinic of the different clinical areas treated. Autonomy of judgment Students will be able to rationally and independently 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 patient's physical examination. Learning skills Ability to continuously update through the knowledge of the methods of consultation and interpretation of information sources (scientific publications, databases and IT resources) Communication skills Acquisition of communication skills gained through the oral exam and the habit of presenting in public the clinical experiences acquired during the internship. Students will be able to apply and clearly transmit the knowledge acquired in verbal form. Learning skills Ability to continuously update through the knowledge of the methods of consultation of information sources (scientific publications, databases and IT resources) relating to clinical medicine applied to the topics of research and diagnosis of the medicine sector.</p>
<p>ASSESSMENT METHODS</p>	<p>Assessment of knowledge of curricular contents by oral exam aimed at verifying the possession of disciplinary skills and knowledge achieved. The oral exam consists of an interview generally lasting 20-30 minutes aimed at ascertaining the disciplinary knowledge of the program. There evaluation is expressed in thirty. Below is the diagram of evaluation: a) 30-30 cum laude Excellent knowledge of the contents teaching; the student demonstrates high analytical-synthetic ability and is able to apply knowledge to solve high problems complexity; b) 27-29 Excellent knowledge of the teaching contents e excellent language properties; the student demonstrates analytical-synthetic ability and is able to apply knowledge for solve problems of medium complexity and, in some cases, even high; c) 24-26 Good knowledge of the teaching contents and good ownership of language; the student is able to apply knowledge to solve problems of medium complexity; d) 21-23 Fair knowledge of the contents teaching, in some cases limited to the main topics; acceptable ability to use the specific language of the discipline and to apply independently the acquired knowledge; e) 18-20 Minimum knowledge of teaching content, often limited to the main topics; modest ability to use the specific language of the discipline and to apply independently acquired knowledge Insufficient; f) He does not own one acceptable knowledge of the main teaching contents; very little or no ability to use the specific language of the discipline and to apply autonomously the acquired knowledge. The final grade comes from the arithmetic average of the marks obtained in the three modules of the integrated course.</p>

	Compensatory tools and dispensatory measures will be guaranteed by the Disability and Neurodiversity Center - University of Palermo (Ce.N.Dis.) to students with disabilities and neurodiversity, based on specific needs and in implementation of current legislation.
TEACHING METHODS	Frontal lessons

<p>PREREQUISITES</p>	<p>Adequate knowledge of anatomy and physiology of the circulatory, respiratory, endocrine, renal and gastrointestinal systems; bases of general pathology, genetics, biology, microbiology, general epidemiology, biochemistry and metabolism</p>
<p>LEARNING OUTCOMES</p>	<p>Knowledge and understanding At the end of the course, students will be able to: -know the theoretical principles underlying the clinical method and evidence-based medicine -know how to correctly perform a complete clinical history, including nutritional aspects, which includes also the social context in which the patient lives -knowing how to deal with the patient in the most varied environmental conditions, both in election and in urgency -know how to perform a correct and complete physical examination of the patient, which includes both the general and systemic aspects and the individual organs and systems, and of the nutritional status; -be able to approach patients with the following signs and syndromes: digestive haemorrhage, acute abdominal pain, chest pain, jaundice, dyspnoea, changes in diuresis, urination and bone, excess and deficiency malnutrition; -knowing how to critically detect and interpret the main symptoms and signs and identify the most correct and appropriate clinical and instrumental diagnostic path, including the correct evaluation and classification of the nutritional status. Ability to apply knowledge and understanding Students will be able to integrate the acquired knowledge with a critical attitude aimed at solving identification, diagnostic and therapeutic questions, through the choice of the most suitable clinical and laboratory methodologies, including understanding the problems of nutrition and clinical nutrition in pathophysiology and in the clinic of the different clinical areas treated. Autonomy of judgment Students will be able to rationally and independently 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 patient's physical examination. Learning skills Ability to continuously update through the knowledge of the methods of consultation and interpretation of information sources (scientific publications, databases and IT resources) Communication skills Acquisition of communication skills gained through the oral exam and the habit of presenting in public the clinical experiences acquired during the internship. Students will be able to apply and clearly transmit the knowledge acquired in verbal form. Learning skills Ability to continuously update through the knowledge of the methods of consultation of information sources (scientific publications, databases and IT resources) relating to clinical medicine applied to the topics of research and diagnosis of the medicine sector.</p>
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LEARNING OUTCOMES	<p>Knowledge and understanding</p> <p>At the end of the course, students will be able to:</p> <ul style="list-style-type: none"> -know the theoretical principles underlying the clinical method and evidence-based medicine -know how to correctly perform a complete clinical history, including nutritional aspects, which includes also the social context in which the patient lives -knowing how to deal with the patient in the most varied environmental conditions, both in election and in urgency -know how to perform a correct and complete physical examination of the patient, which includes both the general and systemic aspects and the individual organs and systems, and of the nutritional status; -be able to approach patients with the following signs and syndromes: digestive haemorrhage, acute abdominal pain, chest pain, jaundice, dyspnoea, changes in diuresis, urination and bone, excess and deficiency malnutrition; -knowing how to critically detect and interpret the main symptoms and signs and identify the most correct and appropriate clinical and instrumental diagnostic path, including the correct evaluation and classification of the nutritional status. <p>Ability to apply knowledge and understanding</p> <p>Students will be able to integrate the acquired knowledge with a critical attitude aimed at solving identification, diagnostic and therapeutic questions, through the choice of the most suitable clinical and laboratory methodologies, including understanding the problems of nutrition and clinical nutrition in pathophysiology and in the clinic of the different clinical areas treated.</p> <p>Autonomy of judgment</p> <p>Students will be able to rationally and independently 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 patient's physical examination.</p> <p>Learning skills</p> <p>Ability to continuously update through the knowledge of the methods of consultation and interpretation of information sources (scientific publications, databases and IT resources)</p> <p>Communication skills</p> <p>Acquisition of communication skills gained through the oral exam and the habit of presenting in public the clinical experiences acquired during the internship. Students will be able to apply and clearly transmit the knowledge acquired in verbal form.</p> <p>Learning skills</p> <p>Ability to continuously update through the knowledge of the methods of consultation of information sources (scientific publications, databases and IT resources) relating to clinical medicine applied to the topics of research and diagnosis of the medicine sector.</p>
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TEACHING METHODS	Frontal lessons

MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE II

Prof. GASPARE PARRINELLO - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Testi consigliati

Pontieri Fisiopatologia Generale ISBN: 978-88-299-2963-4 McCance KL Fisiopatologia ed elementi di Patologia Generale ISBN: 8821441431 Harrison's Principi di Medicina Interna -ISBN: 8808820378 Rugarli. Medicina interna sistematica ISBN: 8821450953 Fradà G Semeiotica medica nell' adulto e nell' anziano - Metodologia clinica ed esplorazione morfofunzionale ISBN: 8829928895 Macleod Manuale di semeiotica e metodologia medica ISBN: 8821438465 Jarvis Esame obiettivo e valutazione clinica ISBN: 9788829931439.

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

EDUCATIONAL OBJECTIVES OF THE MODULE

Versione inglese

The student will be explained the methods of: collecting the anamnesis, defining the symptoms, compiling the clinical reports (folder etc.) and performing the semiological maneuvers of the individual organs and apparatuses useful for the definition of the health and / or disease conditions of the patient. 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.

SYLLABUS

Hrs	Frontal teaching
2	Anamnesis
3	General physical examination
2	Evidence based medicine
3	Semeiotics and methodology of the chest and respiratory system
2	Semeiotics and methodology of the heart
2	Semeiotics and methodology of the wrists and of the lymphatics and venous system
3	Semeiotics and methodology of the abdomen
2	Semeiotics and methodology of the neck
2	Semeiotics and methodology of kidney diseases
2	Semeiotics and methodology of the signs of symptoms
3	Semeiotics and methodology of the central and peripheral nervous system
2	Overall clinical evaluation
2	Bedside assessment and electronic documentation

MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE I

Prof. MAURIZIO SORESI - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Pontieri Fisiopatologia Generale ISBN: 978-88-299-2963-4
 McCance KL Fisiopatologia ed elementi di Patologia Generale ISBN: 8821441431
 Harrison's Principi di Medicina Interna -ISBN: 8808820378
 Rugarli. Medicina interna sistematica ISBN: 8821450953
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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
2	Introduction to the course, concept of health and disease
2	Pathophysiology of atherosclerotic cardiovascular disease,
2	Pathophysiology of hydroelectrolytic disorders and acid-base balance
2	Pathophysiology of heart valve defects
2	Pathophysiology of ischemic heart disease; from angina pectoris to myocardial infarction. The ischemic cascade
2	Pathophysiology of blood pressure control; arterial hypertension, arterial hypotension
2	Pathophysiology of heart failure and structural remodeling, cardiovascular adaptation mechanisms
2	Pathophysiology of anemia
2	Pathophysiology of the gastrointestinal tract and malabsorption conditions
2	Pathophysiology of diabetes
2	The physiopathological mechanisms of shock
2	Pathophysiology of acute and chronic renal failure
2	Pathophysiology of the respiratory system
2	Pathophysiology of the main endocrine glands
2	Pathophysiological mechanisms of liver failure, cirrhosis

**MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE II**

Prof. PASQUALE MANSUETO - Sede HYPATIA, - Sede HYPATIA

SUGGESTED BIBLIOGRAPHY

Pontieri. Fisiopatologia Generale. ISBN: 978-88-299-2963-4
 McCance KL. Fisiopatologia ed elementi di Patologia Generale. ISBN: 8821441431
 Harrison's. Principi di Medicina Interna. ISBN: 8808820378
 Rugarli. Medicina interna sistematica. ISBN: 8821450953
 Fradà G. Semeiotica medica nell' adulto e nell' anziano - Metodologia clinica ed esplorazione morfofunzionale. ISBN: 8829928895
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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 be explained the methods of collecting the anamnesis, defining the symptoms, compiling the clinical reports (folder etc.) and performing the semeiological manoeuvres of the individual organs and apparatuses useful for the definition of the health and/or disease conditions of the patient. 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. Compensatory tools and dispensatory measures will be guaranteed by the Disability and Neurodiversity Center - University of Palermo (Ce.N.Dis.) to students with disabilities and neurodiversity, based on specific needs and in implementation of current legislation.

SYLLABUS

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2	Semeiotics and methodology of the neck
2	Semeiotics and methodology of kidney diseases
2	Semeiotics and methodology of the signs of symptoms
2	Overall clinical evaluation
2	Bedside assessment and electronic documentation
2	Semeiotics and methodology of the central and peripheral nervous system
1	Semeiotics and methodology of the musculoskeletal system

MODULE
APPLIED DIETETIC TECHNICAL SCIENCES

Prof. SILVIO BUSCEMI - Sede CHIRONE, - Sede CHIRONE

SUGGESTED BIBLIOGRAPHY

Dispense; selezione di articoli della letteratura scientifica
Buscemi S, Randazzo C ed. Salute e cultura alimentare globalizzata. Palermo University Press, 2021 (ISBN: 8855093088)
Riccardi, Pacioni, Giacco, Rivellese: Manuale di nutrizione applicata Edizione Idelson Gnocchi (ISBN-10, 8879477358)
Elia, Ljungqvist, Stratton, Lanham-New: Nutrizione Clinica. Editrice Ambrosiana (ISBN: 9788808680044).

AMBIT	50407-Formazione clinica interdisciplinare e medicina basata sulle evidenze
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INDIVIDUAL STUDY (Hrs)	45
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COURSE ACTIVITY (Hrs)	30
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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 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). The concept of "set-point energy gap". 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). The crononutrition.
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
1	Obesity. The ABCD project (Diet, Cardiovascular Wellness and Diabetes).
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 and STEPs.
1	Ketogenic diet. Chrononutrition
1	The sarcopenic syndrome and syndrome of fragility in the elder. Malnutrition and cachexia.

3	Hospital malnutrition. Artificial nutrition (Enteral and parenteral nutrition); PEG, venous access; characteristics of AFMS for enteral nutrition. Nutrition in oncology; refeeding syndrome, short bowel syndrome, dumping syndrome.
1	Lipodystrophies: adipose tissue-leptin-diet, a model for understanding the obesity-diabetes syndrome

MODULE
APPLIED DIETETIC TECHNICAL SCIENCES

Prof. SILVIO BUSCEMI - Sede HYPATIA, - Sede HYPATIA

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1	Lipodystrophies: adipose tissue-leptin-diet, a model for understanding the obesity-diabetes syndrome

MODULE
APPLIED DIETETIC TECHNICAL SCIENCES

Prof. SILVIO BUSCEMI - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Dispense; selezione di articoli della letteratura scientifica

Buscemi S, Randazzo C ed. Salute e cultura alimentare globalizzata. Palermo University Press, 2021 (ISBN: 8855093088)

Riccardi, Pacioni, Giacco, Rivellese: Manuale di nutrizione applicata Edizione Idelson Gnocchi (ISBN-10, 8879477358)

Elia, Ljungqvist, Stratton, Lanham-New: Nutrizione Clinica. Editrice Ambrosiana (ISBN: 9788808680044).

AMBIT	50407-Formazione clinica interdisciplinare e medicina basata sulle evidenze
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INDIVIDUAL STUDY (Hrs)	45
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COURSE ACTIVITY (Hrs)	30
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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 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). The concept of "set-point energy gap". 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). The crononutrition.
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
1	Obesity. The ABCD project (Diet, Cardiovascular Wellness and Diabetes).
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 and STEPS.
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.
3	Hospital malnutrition. Artificial nutrition (Enteral and parenteral nutrition); PEG, venous access; characteristics of AFMS for enteral nutrition. Nutrition in oncology; refeeding syndrome, short bowel syndrome, dumping syndrome.
1	Lipodystrophies: adipose tissue-leptin-diet, a model for understanding the obesity-diabetes syndrome

**MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE I**

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

SUGGESTED BIBLIOGRAPHY

Pontieri Fisiopatologia Generale ISBN: 978-88-299-2963-4
 McCance KL Fisiopatologia ed elementi di Patologia Generale ISBN: 8821441431
 Harrison's Principi di Medicina Interna -ISBN: 8808820378
 Rugarli. Medicina interna sistematica- ISBN: 8821450953
 Macleod Manuale di semeiotica e metodologia medica ISBN: 8821438465
 Fradà G Semeiotica medica nell' adulto e nell' anziano - Metodologia clinica ed esplorazione morfofunzionale ISBN: 8829928895
 Jarvis Esame obiettivo e valutazione clinica ISBN: 9788829931439

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
2	Introduction to the course, concept of health and disease
2	Pathophysiology of atherosclerotic cardiovascular disease,
2	Pathophysiology of blood pressure control; arterial hypertension, arterial hypotension
2	Pathophysiology of ischemic heart disease; from angina pectoris to myocardial infarction. the ischemic cascade
2	Pathophysiology of heart valve defects
2	Pathophysiology of heart failure and structural remodelling, cardiovascular adaptation mechanisms
2	Pathophysiology of main pulmonary diseases; pneumonia and ventilatory disorders
2	Pathophysiology of the gastrointestinal tract and malabsorption conditions
2	Pathophysiology of the liver cirrhosis and its complications. Acute liver failure
2	The pathophysiology of acute and chronic renal failure; acid base balance
2	Pathophysiology of hydroelectrolytic disorders and acid-base balance
2	The pathophysiology of type I and II diabetes. Insulin resistance and the MAFLD.
2	Pathophysiology of anemias
2	Pathophysiology of the of the main endocrine glands: thyroid, adrenal gland
2	The physiopathological mechanisms of shock

MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE I

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

SUGGESTED BIBLIOGRAPHY

Pontieri. Fisiopatologia Generale. ISBN: 978-88-299-2963-4
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 Macleod. Manuale di semeiotica e metodologia medica. ISBN: 8821438465
 Jarvis. Esame obiettivo e valutazione clinica. ISBN: 9788829931439

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. 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 pathogenetic mechanisms 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
2	Introduction to the course; concept of health and disease
2	Pathophysiology of atherosclerotic cardiovascular disease
2	Pathophysiology of hydroelectrolytic disorders and acid-base balance
2	Pathophysiology of heart valve defects
2	Pathophysiology of ischemic heart disease; from angina pectoris to myocardial infarction. The ischemic cascade
2	Pathophysiology of blood pressure control; arterial hypertension, arterial hypotension
2	Pathophysiology of heart failure and structural remodeling, cardiovascular adaptation mechanisms
2	Pathophysiology of anemia
2	Pathophysiology of the gastrointestinal tract and malabsorption conditions
2	Pathophysiology of diabetes
2	The physiopathological mechanisms of shock
2	Pathophysiology of acute and chronic renal failure
2	Pathophysiological mechanisms of liver failure, cirrhosis
2	Pathophysiology of the respiratory system
2	Pathophysiology of the main endocrine glands

**MODULE
PATHOPHYSIOLOGY AND MEDICAL METHODOLOGY - MODULE II**

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

SUGGESTED BIBLIOGRAPHY

Pontieri Fisiopatologia Generale ISBN: 978-88-299-2963-4
 McCance KL Fisiopatologia ed elementi di Patologia Generale ISBN: 8821441431
 Harrison's Principi di Medicina Interna -ISBN: 8808820378
 Rugarli. Medicina interna sistematica ISBN: 8821450953
 Fradà G Semeiotica medica nell'adulto e nell'anziano - Metodologia clinica ed esplorazione morfofunzionale ISBN: 8829928895
 Macleod Manuale di semeiotica e metodologia medica ISBN: 8821438465
 Jarvis Esame obiettivo e valutazione clinica ISBN: 9788829931439

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

EDUCATIONAL OBJECTIVES OF THE MODULE

The student will be explained the methods of: collecting the anamnesis, defining the symptoms, compiling the clinical reports (folder etc.) and performing the semiological maneuvers of the individual organs and apparatuses useful for the definition of the health or disease conditions of the patient. 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 diseases of general and internal interest and to integrate the information acquired with a methodology based on the scientific evidence available.

SYLLABUS

Hrs	Frontal teaching
2	Anamnesis
3	General physical examination
2	Evidence-based medicine
3	Semeiotics and methodology of the chest and respiratory system
2	Semeiotics and methodology of the heart
2	Semeiotics and methodology of the peripheral pulses and of the lymphatic and venous system
3	Semeiotics and methodology of the abdomen
2	Semeiotics and methodology of the neck
2	Semeiotics and methodology of kidney diseases
2	Semeiotics and methodology of the signs and symptoms
2	Overall clinical evaluation
2	Bedside assessment and electronic documentation
2	Semeiotics and methodology of the central and peripheral nervous system
1	Semeiotics and methodology of the musculoskeletal system