



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche		
ACADEMIC YEAR	2020/2021		
MASTER'S DEGREE (MSC)	HUMAN FEEDING AND NUTRITION SCIENCES		
INTEGRATED COURSE	NUTRITIONAL ANALYSIS METHODOLOGIES, ALIMENTATION AND MORPHO-FUNCTIONAL OF THE GASTROINTESTINAL SYSTEM		
CODE	21035		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	BIO/09		
HEAD PROFESSOR(S)	MULE' FLAVIA	Professore Ordinario	Univ. di PALERMO
OTHER PROFESSOR(S)	MULE' FLAVIA	Professore Ordinario	Univ. di PALERMO
	AMATO ANTONELLA	Professore Associato	Univ. di PALERMO
CREDITS	9		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	2		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	<p>AMATO ANTONELLA Monday 14:30 16:00 Presso studio docente, stanza 506, Dpt STEBICEF Edificio 16-Viale delle Scienze, preferibilmente con conferma incontro via email: antonella.amato@unipa.it</p> <p>MULE' FLAVIA Friday 10:00 12:00 Studio personale presso Dipartimento STEBICEF, Edificio 16 -Il piano- viale delle Scienze. E' preferibile concordare appuntamento per e-mail: flavia.mule@unipa.it</p>		

DOCENTE: Prof.ssa FLAVIA MULE'

PREREQUISITES	Basic knowledge of organic chemistry, biochemistry and physiology
LEARNING OUTCOMES	<p>Knowledge and understanding: knowledge of the digestive physiology, essential nutrients and energy requirements and understanding on the importance of a balanced diet for the human wellness.</p> <p>Applying knowledge and understanding: Ability of recognizing the most common nutritional disorders and planning nutritional interventions in order to revert the impairment.</p> <p>Making judgements: ability of evaluating the clinical consequence due to a non-balanced diet.</p> <p>Communication: Ability of communicating nutrition concepts by a scientific language</p> <p>Lifelong learning skills: Ability of updating the knowledge in nutrition and relative disorders by the most recent literature.</p>
ASSESSMENT METHODS	The final test consists of an oral exam with a grading system ranging from 18/30 to 30/30 cum laude. The answers to three questions concerning the 6 CFU module and to two questions concerning 3 CFU module will be evaluated. Top marks will be reached when the student possesses deep understanding and high language skills. Less knowledge of the topics and lower ability to present acquisitive knowledge will be proportionally evaluated less positively. Pass mark will be assigned when the student demonstrates acceptable knowledge and understanding of the topics and minimal ability to present acquisitive knowledge.
TEACHING METHODS	Frontal lessons

MODULE
NUTRITIONAL STATE ASSESSMENT, PRINCIPLES OF DIET AND DIETOTHERAPY

Prof.ssa ANTONELLA AMATO

SUGGESTED BIBLIOGRAPHY

Alimentazione, nutrizione e salute. Debellis-Poli. Edises
Alimentazione e nutrizione umana. Costantini-Cannella-Tomassi. III Edizione-II Pensiero Scientifico Editore.

AMBIT	50514-Discipline Biomediche
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48

EDUCATIONAL OBJECTIVES OF THE MODULE

The aim of the course is to impart knowledge on the importance of adequate nutrition to maintain well-being. To this end, knowledge on the function of the main nutrients, the properties of animal and vegetable foods and the methods for measuring energy expenditure will be deepened. Balanced diets in physiological conditions, pregnancy, lactation, growing subject and sportsman will be studied. The correct diet in nephrological, dysmetabolic, diabetic, dyslipidemic, hypertensive, oncological diseases will be also discussed.

SYLLABUS

Hrs	Frontal teaching
8	Dietary habits. Assessment of nutritional status. Biochemical Evaluation and Anthropometric Measurements. Energy Expenditure. Basal Metabolic Rate, Metabolism during Exercise. Methods for the assessment of energy expenditure: direct and indirect calorimetry.
8	Nutritional function of nutrients. Water and minerals - Vitamins
8	Food of animal origin: Milk and derivatives. Meat. Eggs. Vegetable food: Cereals and derivatives; Vegetables. Fruit.
6	Balanced diet in Adulthood and in the elderly, Nutrition in Infancy and Adolescence, Nutrition for Pregnancy and Lactation; Nutrition and sport
6	Mediterranean diet, vegetarian diet, vegan diet, ketogenic diet.
8	The diet in nephrological pathology, in diabetes mellitus. Dyslipidemias: dietary indications; The diet in hypertension, Nutrition and cancer.
Hrs	Practice
2	Formulation of a balanced diet. Analysis of dietetic software. Dieting.
2	anthropometric analysis methods

MODULE
MORPHO-FUNCTIONAL BASES OF THE GASTROINTESTINAL SYSTEM

Prof.ssa FLAVIA MULE'

SUGGESTED BIBLIOGRAPHY

Alimentazione, nutrizione e salute Debellis, Poli EdiSES
Materiale dato a lezione

AMBIT	20989-Attivit Formative Affini o Integrative
INDIVIDUAL STUDY (Hrs)	51
COURSE ACTIVITY (Hrs)	24

EDUCATIONAL OBJECTIVES OF THE MODULE

To provide the basic knowledge on the digestive tract functions and relative control mechanisms. Attention will be focused on the role of each component (Mouth, oesophagus, stomach, small and large intestine, liver and pancreas) and on chemical digestion and absorption of nutritive substances.

SYLLABUS

Hrs	Frontal teaching
8	Overview of digestive anatomy and physiology . Neural, endocrine and paracrine regulation of digestive functions. The motor function: propulsive and non-propulsive motility – Gastric emptying – Migrating complex and mass movements.
6	Salivary secretion. Gastric secretion. Pancreatic secretion - Hepatic secretion
8	Digestion and absorption of carbohydrate - Digestion and absorption of proteins - Digestion and absorption of lipids. Water and electrolite. Vitamin, calcium and iron absorption
2	Gustative physiology