



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Psicologiche, Pedagogiche, dell'Esercizio Fisico e della Formazione		
ACADEMIC YEAR	2021/2022		
MASTER'S DEGREE (MSC)	SCIENCE OF PREVENTIVE AND ADAPTED PHYSICAL ACTIVITY AND SPORT PERFORMANCE		
SUBJECT	FOOD INTEGRATION, DRUGS AND DOPING IN SPORTS		
TYPE OF EDUCATIONAL ACTIVITY	D		
AMBIT	20734-A scelta dello studente		
CODE	17530		
SCIENTIFIC SECTOR(S)	BIO/10		
HEAD PROFESSOR(S)	PROIA PATRIZIA	Professore Associato	Univ. di PALERMO
OTHER PROFESSOR(S)			
CREDITS	4		
INDIVIDUAL STUDY (Hrs)	72		
COURSE ACTIVITY (Hrs)	28		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	2		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	PROIA PATRIZIA Thursday 10:00 13:00 Via Pascoli, 6 Secondo piano		

DOCENTE: Prof.ssa PATRIZIA PROIA

PREREQUISITES	Basal Knowledge of biochemistry applied to sport
LEARNING OUTCOMES	Knowledge and understanding: Knowledge acquisition concerning the role Food and Drug Administration in the health of the organism. Ability to use the specific language right in that discipline. Ability in implementing knowledge and understanding: gain the ability to integrate acquired knowledge to a critical approach and an attitude oriented towards research in the physiological range, drug and nutrition. Judgement autonomy: Be able to formulate personal judgments for analytical problems solve own discipline and be able to independently search for scientific information. Communicative skills: being able to communicate clearly and without ambiguity to interlocutors specialists and non-specialists (medical staff, or customer), the prognostic significance of nutritional disorders as well as the substances considered "doping" in sports. Learning skills: ability to update their knowledge in the field of prevention and nutrition in sport, by consulting scientific publications and participating in advanced courses and workshops. It will also be detailed knowledge of substances considered "doping" in sports.
ASSESSMENT METHODS	Written test. The exam consists in a 30 question multiple choice test, plus an additional question for the 'with honours' assessment. It aims at verifying students' acquisition of the basic knowledge of the topics covered during the course. The questions are structured so as to allow students to formulate their answers through the possibility to compare the submitted answers. In order to get the passing grade it is necessary to answer correctly at least 18 questions out of 30. The assessment has a final grade included in the following range: 30-30 with honours (excellent), corresponding to 'excellent knowledge of topics, excellent use of language, good analytical skills, the student can implement his/her knowledge to solve the submitted issues'; 26-29 (very good), 'good mastery of topics, very good use of language, the student can implement his/her knowledge in order to solve the submitted issues'; 24-25 (good), corresponding to 'basic knowledge of the main topics, fair use of language, with moderate capability to independently implement knowledge to solve the submitted issues'; 21-23 (satisfactory), 's/he doesn't possess full mastery of the main teaching topics but s/he possesses knowledge of them, satisfactory use of language, poor capability to independently implement the acquired knowledge'; 18-20 (passing grade), 'very poor basic knowledge of both the main teaching topics and the technical language, no or very poor capability to independently implement the acquired knowledge'; unsatisfactory, 's/he doesn't possess an acceptable knowledge of the contents of the topics dealt with during the course'.
EDUCATIONAL OBJECTIVES	The course provides basal knowledge in nutrition in order to maintain health and avoid deficiency diseases and overeating. Particular attention will be given to the study of composition of foods, the digestive function, the deputies mechanisms at its control and the relationship between physical activity and nutrition, as well as integration in the athlete professional and not, and doping agents.
TEACHING METHODS	Frontal Lectures
SUGGESTED BIBLIOGRAPHY	Alimentazione e nutrizione umana-Mariani Costantini, Cannella, Tomassi; Il pensiero Scientifico Editore-009 Integrazione e doping. Dario Donno Farmaci e sport.D. R. Mottran. Edizione italiana a cura di D.E. Pellegrini-Giampietro. Milano: Casa Editrice Ambrosiana, 2005

SYLLABUS

Hrs	Frontal teaching
3	Introduction to the nutrition physiology, the difference between food and nutrition, natural resources and pressure, and the physical and cultural evolution, deviation of eating behaviors, industries and food technology, current eating behavior..Current dietary behavior: state of the art in Italy, feeding and diseases association, the Mediterranean diet, factors responsible eating habits, nutrition education, modern nutrition, functional foods
2	The nutraceutical, food or drugs, novel foods and GMOs, enriched foods, lighter foods, functional foods, food components with functional role: probiotic and symbiotic. Genetically modified foods and risks.
3	Quality certification in the food system, evolution of the concept of quality in the last 50 years, the quality and safety of the product, voluntary certification, PDO and PGI, diet, DNA and health, nutrition and genetics, Nutrigenomics, a nutritional impact SNP, gene and environment, epigenetics, nutrition and epigenetics, conceptual foundations of the field nutrigenomic research, nutrients and metabolism, diet as a risk factor, benefits
2	energy and metabolism, energy balance, the measure of energy expenditure, bioenergetics, caloric value of nutrients, basal metabolic rate, direct and indirect calorimetry, predictive equations of basal metabolism

SYLLABUS

Hrs	Frontal teaching
2	Thermogenesis meal energy expenditure for physical activity, metabolic equivalent units (MET), rate of physical activity (TAF), level of physical activity daily (LAF), integrated energy index, the elderly needs, in children and in pregnancy. Nutrients
3	Macro and micronutrients, water-soluble and fat-soluble vitamins and their role, minerals, micronutrients functions, carbohydrates, biological and energy functions, simple and complex, available or not, resistant starch, physiological effects of fiber, soluble and insoluble dietary fiber, whole grains, nutrition and recovery of glycogen stores after exercise.
2	Lipid nutrients, plastics and energy functions, essential fatty acids, deficiencies, cholesterol functions, digestion and absorption, protein nutrients, classification of amino acids, functions, protein metabolism, nutritional value of proteins, ideal protein. Quality of a protein, chemical methods of determination, leucine and protein synthesis, branched chain amino acids, water, how to manage the hydration, importance of nutrients in sport, vegetarians and needs, nutrition for a person who practice competitive sports, amateur and fitness .
3	Drugs, drug source, drugs and exercise modulation of the muscle cell, inflammatory Drugs, The role of vitamins in sport, Drugs and therapeutic needs, risk/benefit ratio of drugs
2	Supplements, classification of food supplements adapted for intense muscular effort, effects of the supplements on the performance, adverse reactions to dietary supplements, mechanisms and consequences of dehydration on performance and health
5	Definition of doping, the Epidemiology of doping at a professional level, amateur level and among adolescents, Classification of substances and doping methods, Mechanisms of action of performance-enhancing drugs, effects on sports performance of the various performance-enhancing drugs, adverse reactions of doping agents, Italian law on doping, antidoping controls