

<b>POLI</b> <b>ESCOLA SUPERIOR</b> <b>EDUCAÇÃO</b> <b>COMUNICAÇÃO</b> <b>DESPORTO</b> <b>TÉCNICO</b> <b>GUARDA</b>	<b>SUBJECT DESCRIPTION</b>	<b>MODELO</b> PED.012.03
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<b>Course</b>	<b>Degree in Sports</b>					
<b>Subject</b>	<b>Sport Nutrition and Supplementation</b>					
<b>Academic year</b>	2023-2024	<b>Curricular year</b>	3rd	<b>Study period</b>	2nd semester	
<b>Type of subject</b>	Compulsory	<b>Student workload (H)</b>	Total: 108	Contact: 45	<b>ECTS</b>	4
<b>Professor(s)</b>	Faber Martins					
<input checked="" type="checkbox"/> <b>Area/Group Coordinator</b> <input type="checkbox"/> <b>Head of Department</b>	(select)	Carolina Vila Chã				

## PLANNED SUBJECT DESCRIPTION

### 1. LEARNING OBJECTIVES

Understand the influence of nutrition, combined with physical exercise, in the promotion of health and prevention of cardiovascular diseases;

Know the nutrients, in terms of function, classification, recommendation, action in the exercise, effects of the lack and supplementation;

Know the influence of nutrition on exercise, tissue maintenance and repair;

To assimilate the concepts of nutrients with antioxidant properties and their effects on the removal of oxygen free radicals;

Identify the main pathological eating behaviors;

Understand the importance of nutrition as a controlling agent of body morphology;

Evaluate body composition as a result of physical activity and food / nutritional pattern;

Establish relationships between diet-exercise-body composition;

Ponder arguments of a diverse nature, in order to distinguish the scientific character, in order to position itself in the face of social controversies that involve knowledge of nutrition and supplementation

Provide theoretical knowledge to understand the interaction between the type of diet and the health of individuals and how physical exercise can positively or negatively influence this relationship;

Identify and characterize the fundamental aspects of nutrition in different populations, as well as the correct use of various supplements

### 2. PROGRAMME

- 2.1. *General Concepts of Food and Nutrition in Sport*
- 2.2 *Macronutrients - Fundamental Concepts*
  - 2.2.1 *Carbohydrates*
  - 2.2.2 *Lipids*
  - 2.2.3 *Proteins*
- 2.3 *Vitamins and sports*
- 2.4. *Minerals and sport*
- 2.5. *Energy Expenditures - General Concepts*
  - 2.5.1 *Basal metabolism*
  - 2.5.2 *Food thermogenesis*
  - 2.5.3 *Rate of physical activity*
  - 2.5.4. *Thermoregulatory needs*
  - 2.5.5 *Nutrition, exercise, growth, maintenance and tissue repair*
  - 2.5.6 *Nutrition and oxidative stress*
- 2.6 *Pathological nutritional behaviors in sport*
  - 2.6.1. *Anorexia of Sportsman and Sports anemias*
- 2.7 *Water and electrolyte balance - water composition and water functions*
- 2.8 *Vegetarian diets and sports performance*
- 2.9 *Recommendations nutritional pre- and post-activity*
- 2.10 *Nutritional supplementation in sports practice*
  - 2.10.1 *Ergogenic and ergoly substances: interaction between drugs and nutrients*
- 2.11 *Doping - Fundamental Concepts*
- 2.12 *Nutritional assessment and body composition*
- 2.13 *Diet-exercise-body composition interaction*

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### 3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

*Nutrition takes on a decisive importance in improving health status, as well as in the development of several pathologies, such as obesity, hypertension, diabetes, osteoporosis, dyslipidemias, some diseases of the gastrointestinal tract, among others. Allied to the physical exercise, it has deserved special attention in the diverse populations, either in the perspective of the optimization of the sports performance, or in the promotion of the health or even in the primary non-pharmacological intervention in several cases, among which the coronary disease stands out. In this context, it is important to mention the importance of sports nutrition and supplementation in the current panorama, particularly in the fields of research and intervention related to the study of the correct intake of macronutrients, minerals and vitamins in the regular and systematic practice of physical activity. In addition, the evaluation of nutritional status along with the analysis of body composition seem to be decisive variables in the improvement of health and well-being, as well as in sports performance. In this perspective, it is fundamentally important to understand the contents of an introductory nature regarding the concepts of diet, calories, energy consumption and expenditure, deviant eating behaviors in sport and, especially, food sources, classification, effects of nutrient deficiency and supplementation, Regulation of metabolism and factors conditioning the use of each nutrient during the exercise.*

### 4. MAIN BIBLIOGRAPHY

#### 4.1-Mandatory

Teixeira, P., Sardinha, L.B., Barata, J.L.T. (2008) Nutrition, Exercise and Health. LIDEL

#### 4.2-Recommended

Bean, A. (2005). The complete sports nutrition guide. Barcelona: Editorial Paidotribo.

Cozzolino, S.M.F. (2012). Bioavailability of nutrients. 3rd Edition. Editora Manole

Philippi, E.T. (2008). Pyramid of Food: basic fundamentals of nutrition. Editora Manole

Horta, L. (2006). Nutrition in sports. Lisbon: Editorial Caminho.

Kathleen, L. (2001). Krause's food, nutrition and diet therapy, 10th Edition. W.B. Saunders.

Martinez, J. (1998). Theoretical-practical fundamentals of nutrition and dietetics. Madrid: McGraw-Hill.

Peres, E. (1995). Knowing how to eat better. Lisbon: Editorial Caminho.

Saldanha, H. (1999). Clinical Nutrition. Lisbon: Lidel.

Wardlaw, G., Hampl, J. & Disilvestro, R. (2004). Perspectives in nutrition, 6th edition. New York: McGraw-Hill.

### 5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

The unit is essentially theoretical and practical, and the classes are developed mainly through the expository method. Often is performed the method of interaction of groups for the purpose of consolidation/ systematization of the content covered. In the tutorial orientation sessions will seek to clarify doubts and difficulties in understanding the contents and structuring a small project, as well as guide the study process to be developed by the student. The evaluation will be done according to a dynamic and continuous process, with a formative dimension. This assessment methodology is defined operationally by:

- Three theoretical assessments of knowledge (corresponding to 90% of the final grade/ 30% each time of evaluation), established in face-to-face. In addition to the evaluation moments, the participation in the teaching activities (presence, intervention and work in the moments of contact) will represent the

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remaining 10% to obtain the final average. The final classification of the discipline includes the average obtained in the three theoretical evaluations, which will be added the grade obtained in the participation and presence in the contact hours (face-to-face classes).

- The minimum mandatory grade to be obtained in each of the theoretical evaluations will be 9.5 values. In the case of non-access (referring to theoretical assessments), in which the addition of the grade for the activities in classes is excluded, leads to admission to the respective examination of the discipline. The weighting of the exam will be 100%.

## 6.COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

The teaching methodologies seek to fulfill the questions and the competences to be developed considering the program of the discipline. Theoretical classes allow us to comply with the transmission of contents that allow students to know, understand and master the most general aspects, guiding principles and fundamental factors regarding sports nutrition and supplementation. The classes of research, discussion, descriptive synthesis and the elaboration of research work provide the improvement of the capacity of analysis, interpretation, development and reflection on the theoretical knowledge transmitted translated in the original work that they carry out during the semester.

The evaluation methodologies accompany the teaching / learning methodologies in their relation with the type of competence and with the objectives of the curricular unit. Competencies of the order of knowledge and understanding are essentially evaluated through the performance of individual theoretical assessments. The skills of knowledge and understanding are essentially assessed by performing written tests and practical presentation of the class sessions.

**7.ATTENDANCE** - In accordance with the rules established by the direction of the ESECD

**8. CONTACTS** - [fabermartins@ipg.pt](mailto:fabermartins@ipg.pt) : Monday 15:00 to 17:00; Tuesday 15:00 to 18:00

**DATE**

**19 de fevereiro de 2024**

Professor

(signature)

Area/Group Coordinator

(signature)