

**COURSE DATA****Data Subject**

<b>Code</b>	33953
<b>Name</b>	Food and Sporting Nutrition
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	4.5
<b>Academic year</b>	2021 - 2022

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. Period</b>
1205 - Degree in Human Nutrition and Dietetics	Faculty of Pharmacy and Food Sciences	4 First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1205 - Degree in Human Nutrition and Dietetics	35 - Sports food and nutrition	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
ESTEVE MAS, MARIA JOSE	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.
FRIGOLA CANOVES, ANA MARIA	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

**SUMMARY**

Diet and Sports nutrition course is an elective subject offered during the first half in the fourth year of the Bachelor's degree in human nutrition and dietetics. In the existing curriculum (2009 Plan) consists of a total of 4.5 credits (1 credit ECTS= 25 h). This course is intended to students dominate the physiology and biochemistry of the athlete. The sports nutritional evaluation, as well as nutrition in training, competition and recovery period will, and focusing on sports short, medium and long term. It must also be able to meet aid nutritional will currently used in sports. As professionals in the area of Health Sciences, graduates not may escape in their future professional employment of these concepts of huge news.



From the subject, it is intended to incorporate the student body in an education process that includes a broad set of knowledge, values, attitudes and skills related to the concepts of sustainability, contributing to the scope and implementation of the Sustainable Development Goals (SDG). Different objectives will be worked on in the subject, as well as with a strong anchoring in the defense of human rights, gender equality and the empowerment of women.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

The study of the subject of "Food and nutrition sports" is based on the practical implementation of many of the knowledge gained in courses in the first cycle "Physiology", "Biochemistry", and "Nutrition".

## OUTCOMES

### 1205 - Degree in Human Nutrition and Dietetics

- Conoce, valorar críticamente y saber utilizar y aplicar las fuentes de información relacionadas con nutrición, alimentación, estilos de vida y aspectos sanitarios.
- Desarrollar la profesión con respeto a otros profesionales de la salud, adquiriendo habilidades para trabajar en equipo.
- Realizar la comunicación de manera efectiva, tanto de forma oral como escrita, con las personas, los profesionales de la salud o la industria y los medios de comunicación, sabiendo utilizar las tecnologías de la información y la comunicación especialmente las relacionadas con nutrición y hábitos de vida.
- Adquirir la formación básica para la actividad investigadora, siendo capaces de formular hipótesis, recoger e interpretar la información para la resolución de problemas siguiendo el método científico, y comprendiendo la importancia y las limitaciones del pensamiento científico en materia sanitaria y nutricional.
- Adquirir la terminología propia de la materia de Alimentación y Nutrición deportiva.
- Identify the foods and nutrients of nutritional importance in sports.
- Evaluate the nutritional status of the sportsperson.
- Study the food and nutrition recommendations in periods of training, competition and recovery.
- Study the different types of sports (short, medium and long duration) and the main nutritional considerations.



- Know about the different types of nutritional ergogenic aid and their potential benefits and contraindications.
- Know about possible disturbances in eating behaviour that may be detected in different sports, as well as their treatment.

## LEARNING OUTCOMES

Attempts to all activities developed in the course form the student in the cross-cutting skills of the degree in Dietetics and human nutrition.

1. Handle the basic terminology of "Diet" and "Nutrition".
2. Acquire the necessary knowledge to prepare diets for athletes in different situations.
3. Know the relationship between food and health. The importance of diet in the improvement of athletic performance.

To do this:

1. develop diets and hygienic-dietetics guidelines to improve athletic performance in different situations (training, pre-competition, competition) and different types of sports.
2. Issuing food and Nutrition Council in the professional field, attending the difference by sex, physiological or pathological state.
- 3.-Learn to apply the scientific method and acquire skills in the management of sources of information, bibliography, preparation of protocols and other aspects that are considered necessary for the design and evaluation of mission subsistence allowance.
4. Develop skills of communication and information, both oral and written, to deal with patients and users of the Centre where play their professional activity. Promote capacities for work and collaboration in multidisciplinary teams and those relating to other professionals.
5. Carry out the project of nutritional assistance.
6. Give dietary advice on health, healthy physical and medical nutrition therapy.

## DESCRIPTION OF CONTENTS

### 1. Energy and Nutrients in sport

- 1.1 Energetic efficiency and energy balance.
- 1.2. Carbohydrates, lipids and proteins in exercise.
- 1.3. Vitamins and minerals in exercise.
- 1.4. Hydration during exercise.

**2. Evaluation of the nutritional status of the sportsman**

- 2.1. Evaluation of the nutritional status of the athlete.
- 2.2. Body composition of the athlete.

**3. The diet of the sportsman**

- 3.1. Nutritional adaptations to training
- 3.2. Nutritional training and periodization
- 3.3. Nutritional application in different sports situations.

**4. Ergogenic aids**

- 4.1 Definition and classification of the ergogenic aids.
- 4.2 Ergogenic aids nutritional.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Computer classroom practice	8,00	100
Seminars	2,00	100
Tutorials	2,00	100
Development of group work	5,00	0
Development of individual work	5,00	0
Study and independent work	40,00	0
Readings supplementary material	2,50	0
Preparation of evaluation activities	2,00	0
Preparing lectures	2,00	0
Preparation of practical classes and problem	3,00	0
Resolution of case studies	8,00	0
<b>TOTAL</b>	<b>109,50</b>	

**TEACHING METHODOLOGY**

During the activities, both theoretical and practical, examples of applications of the subject's contents in relation to the Sustainable Development Goals (SDG) will be indicated.



The development of the course is structured in:

**theory classes:** carried out in weekly sessions of one hour. In total 15 sessions of an hour are necessary to cover this facet teaching. Master class will basically be used in theory classes. The teacher will present the most relevant content on the subject, using audiovisual media necessary for quick and consistent development of the same. The teacher will leave accessible in advance on the platform of teaching "Virtual Classroom", the necessary material support for proper follow-up of theory classes. The theoretical classes enable notably the acquisition of knowledge, and to a lesser extent contribute to the acquisition of procedures and attitudes. The Professor will monitor the assistance to them.

**Practical sessions:** are compulsory. Carried out in 2 sessions of 4 hours. During the session will have to make a script of the "Notebook of practices" sessions, with a short theoretical introduction of them and the detailed protocol. During each session students will have to fill the practice workbook, including chemical reactions and the mathematical calculations needed to obtain the results and the final solution. The notebook of practices will be delivered during the week following the completion of the practices and will be corrected by the teacher. The most representative calculations made previously by the student in their time of study will be reviewed during classes. Practical classes contribute primarily to the acquisition of skills, and to a lesser extent to the attitudes and knowledge.

**Seminars:** They are mandatory for the students who are enrolled. They must prepare in groups of 4 or 5 students, each of which it will present and discuss with fellow (20-minute oral presentation and written work). At beginning of year groups seminars, as well as the subject will be established to treat each one of them. Concerning the seminar dates and deadlines appear published on Virtual Classroom of the subject in advance. The assessment of this activity will cover both the scientific contents treated as the way in which they have been submitted, particularly assessing the ability of communication and transmission of ideas and concepts, as well as the ability to join a working group.

**Tutorials:** Are compulsory attendance i students will come to them in organized groups and will be in total 2 evenly distributed at the beginning and end of the semester. The duration of these tutorials will be 1 hour. In them, Professor will evaluate the learning process of students in a global manner and guide students on the methods of work more useful for the resolution of problems that might arise. Equally, the tutorials will serve to resolve all doubts that have been able to arise over the theoretical and practical classes.

**Tasks:** throughout the course the student will arise a number of practical issues and problems

## EVALUATION

The evaluation of learning of the knowledge, competitions and skills will be carried out along the course. There will be considered to be parameters evaluable: a) theoretical-practical final written test in which there will be evaluated the grade of general knowledge of theoretical concepts and procedures presented for every topic; b) achievement of individual and/or collective memoirs of exercises relative to the different activities in classroom and practical class, in that ad will evaluate the acquisition of skills and definite attitudes hoc for the matter, as well as the work developed by the student and the apprehension of procedures and basic concepts; c) preparation and participation in seminars: written work and exhibition (the scientific content of the work will be evaluated, and the capacity of exhibition and debate with the teachers and partners, as well as the integration capacity in the group of work; d) other tasks proposed along the course, whose(which) achievement he(she) will announce the students to himself with enough





advance.

**Evaluation of the theoretical and practical:** The exam material will include the subjects presented during the theoretical classes and laboratory and computer room sessions, involving open and short questions or alternative response questions (true-false), with due reasoning and short questions and the numerical solving of practical cases. This exam will represent 80% of the final grade. A minimum of 5/10 points will be required in order to include this exam in the final grade.

**Evaluation of tutorialship:** the evaluation of this section will represent **0.5 points**. In this qualification will take into account the resolution of the tasks proposed, different laboratory practices and tasks, and tutorialship assistance.

**Evaluation of tasks:** the evaluation of this section will represent **0.5 points**. In this qualification will take into account the resolution of the tasks proposed, different laboratory practices and tutorialships.

**Evaluation of the seminars:** the seminar held will contribute a maximum of **1.0 point** to the final note of this subject. You will be assessed the work performed, both the scientific content of the work, like the work of preparation of the same and the ability to expose it in public and discuss it with the teacher and classmates, as well as its integration into the group. Be taken into account also the assistance to them.

**In the case of suspending the subject in the first call,** only will be saved until the second call the obtained note corresponding to tutoring, homework and seminars. In no event will be saved the obtained note in the test (not even the corresponding to the theoretical questions not recounted to the practical questions of the same one).

**In the case of suspending the course in the second call,** laboratory practices must not repeat them during the two following years.

**In the first call** they will be qualified as **not presented**:

1 ° The students who were not submitted to the written theory examination, but who have participated and have notes somewhere/s of activities (seminars, laboratory, computer science tutorials,...).

2° Students who were not submitted to the written theory exam or have participated or retrieved note in the rest of the activities of the course.

**In the second call** will be rated as **not presented**, only the students that were not submitted to the written theory exam or have participated or retrieved note in the rest of the activities of the course. Instead, which is presented to the theory test but have a score of other kinds of activities, they will be qualified as **suspense**.

## REFERENCES



## Basic

- Arasa, M. Manual de nutrición Deportiva. Barcelona. Paidotribo, 2005
- Bagchi, D., Nair, S., Sen, C.K. Nutrition and enhanced sports performance : muscle building, endurance, and strength. Elsevier ; 2013
- Burke L. Nutrición en el Deporte. Editorial Médica Panamericana. 2010.
- Cabañas, M.D., Esparza, F.. Compendio de cineantropometría. CTO editorial. 2009
- Dan Bernardot. Nutrición deportiva avanzada: cómo ajustar la ingesta de alimentos y fluidos para conseguir un entrenamiento y rendimiento óptimos. Editorial Tutor. 2013.
- González, J.C. Ayudas ergogénicas y nutricionales. Editorial Paidotribo. 2006.
- Jeukendrup, A. And Gleeson, M. Sport Nutrition. Human Kinetics. Third Edition. 2019
- Peniche, C., Boullosa, B. Nutrición aplicada al deporte. Madrid: McGraw-Hill, 2011.

## ADDENDUM COVID-19

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

### 1. Contents

The contents initially included in the teaching guide are maintained.

### 2. Volume of work and temporal planning of teaching

Maintains the weight of the distinct activities that sum the hours of dedication at credits ECTS marked at the original educational guide.

### 3. Teaching methodology

- Theoretical teaching: it will be carried out through synchronous sessions (synchronized videoconferences on the BBC, or other technology indicated by the Center) and face-to-face. The distribution of the students will be done by groups, so that 50% will be in the Faculty classroom while the other 50% will connect online, alternating their attendance by weeks. The class will always be held following the schedule (date and time) approved by the Center Board.
- Tutorials: They will all be face-to-face according to the dates set by the course calendar.
- Seminars: They will all be face-to-face according to the dates set by the course calendar.
  - Practices: if it is necessary to reduce the presence of the student to 50% in the laboratory, with audiovisual media support through the virtual classroom. If due to health circumstances the attendance is canceled, the practices are adapted with the audiovisual media (videos, synchronous videoconference, supervised activities, ...).
  - Program of tutorialship. It maintains the program of tutorialship virtual (attention at 48 working hours maxima for e-mail). It utilises forum or the chat of the virtual classroom to attend the doubts,



videoconferences and e-mail.

If a state of total confinement were to occur, all face-to-face teaching would be carried out online. In this case, replacement of the face-to-face class for the videoconference (synchronous sessions), also facilitates the ones the presentation so that they can discharge the slides and facilitate his survey.

It tracks with the dynamics tracked lasting the period of face-to-face teaching with activities and problems proposed as a tasks, workshops, questions, feedback (available tools at the “virtual Classroom”) that permit to meet the survey and learning of the pupil. At the case of exercises or problems, facilitates the ones the resolution at which appends him audio to facilitate the realization.

#### **4. Evaluation**

If the evolution of the pandemic allows it, it will be face-to-face and in the terms indicated in the teaching guide. Only in the event that this is not possible, the assessment will be conducted through the virtual classroom using an online questionnaire with single-choice questions.

The relative weight of the theory and seminars is maintained as indicated in the teaching guide.