

SUMMER COURSE

Mediterranean diet: from landscape to tradition and health

Coordinator: Suzana Ferreira Dias (ISA/DCEB)

Teaching Staff (by alphabetic order): António Fabião, Helena Pereira, Isabel Januário, Margarida Moldão, Pedro Louro, Rita Fragoso, Sofia Catarino, and Suzana Ferreira Dias.

Attendants: Graduation students, MSc students, PhD students, professionals and general public interested in having an integrated approach on the Mediterranean diet.

Language: the course will be taught in English.

Duration:

Contact hours: 32 h (lectures and practical sessions)

Field trips: 24 h contact (three field trips, of 8 h duration each, will be scheduled along the course)

Total contact hours: 56 h

Credits: 6 credits ECTS

Time-schedule: during June 2022 (lessons will be scheduled from 9h to 13h in working days, and the field trips will be along a full working day)

Enrollment: deadline 15th May 2022

Number of students: Minimum 7 participants / Maximum 12 participants

Registration fees:

With evaluation and, in case of approval, attribution of 6 ECTS: **400 euros for each participant.**

Documents to submit with the application:

- Identity document (copy)
- Short biography
- Certificate of qualifications (copy)
- Letter of motivation
- Recommendation letters (optional)

Selection Criteria:

Preference order: 1st students, 2nd professionals, 3rd general public.

Short biography and motivation letter evaluation for final acceptance decision.

Evaluation and certificates:

The evaluation will be performed as follows: ´

Mandatory: attendance of 80 % of lessons and all the field trips.

Final grade= grade obtained in written Exam on the topics addressed during the program.

Students will have access to a participation certificate. This certificate will be issued by the Academic Division and is subjected to the due fees.

Objectives:

The main goal of this course is to get acquainted with (i) the Mediterranean diet, which is not only a list of healthy foods, but supported by a well-defined traditional lifestyle and sustainable practices, and (ii) with the need to preserve and valorize traditional and typical products of the Mediterranean diet, making their production sustainable and competitive with other imported food products.

To accomplish this goal, the following topics will be addressed:

1. The Mediterranean Diet as an intangible cultural Heritage of Humanity.
2. Sensory analysis as the main tool in food choices made by the consumer and on quality control and product development.
3. Valorization of food products from traditional Mediterranean diet: the health properties and a brief description of technological processing of the most important food products from the Mediterranean diet will be presented (fruits and vegetables, olive oil, wine and dairy products).
4. Forest products, cork and cork products, as complementary products from Mediterranean agroforest systems.
5. Agro-residues valorization, efficient use of resources, and water-energy nexus.

Learning outcomes:

At the end of this course, it is expected the student will be able to:

- Understand the importance of the Mediterranean diet and lifestyle in health and well-being of the populations.
- Understand the importance of sensory analysis on consumers preferences and on product development.
- Have some knowledge about the most representative food products of the Mediterranean diet, their specificities, and how to produce them.
- Understand the importance of forest products and cork on the eco-systems sustainability and economy of the Mediterranean region.
- Understand the importance of agro-residues valorization and the problem of climate change on water scarcity in Mediterranean regions.

Syllabus

- 1. The Mediterranean Diet as an intangible cultural Heritage of of Humanity:** the traditional lifestyle in Portugal based on the Mediterranean diet, tradition, socio-cultural and health issues.
- 2. Sensory Analysis of Foods:** Consumers acceptance vs. Quality evaluation and scoring. General concepts of sensory analysis, physiology of sensations, the role of analytical and consumers' panels, testing rooms and sensory evaluation rules.
- 3. Valorization of food products from traditional Mediterranean diet**

Fruits & Vegetables: Characterization of the Portuguese fruits & vegetable sector; Fruit & vegetables in human nutrition and health implications; Postharvest fruit & vegetable quality parameters; Presentation of fruits & vegetable products to consumers: Fresh and processed products (minimally processed, non-alcoholic beverages, dehydrated, jellified, crystallized, and fermented fruits & vegetables).

Olive Oil: Overview on the olive oil sector (World, Mediterranean countries and in Portugal); olive oil definition; olive oil as a functional food with recognized health claims; Portuguese olive oils with Protected Denomination of Origin. Flowsheet of olive oil extraction and brief description of the process (continuous olive mills); olive oil commercial types, quality parameters of olive oil (chemical and sensory analysis).

Wine and winemaking. Overview on Portuguese wine sector. Wine regions and Protected Designations of origin. Portuguese wine types. Brief description of conventional winemaking processes. Wine authenticity. Tasting of different types of Portuguese wines.

- Dairy Products:** The milk and dairy sector in Portugal; the Mediterranean influence – traditional dairy products from milk of small ruminants; dairy products in the context of the Mediterranean Diet, nutritional and health implications; general processing and traditional technological specificities in cheese, whey cheese and butter production; traditional cheeses and Protected Designations of Origin
- 4. Forest products, Cork and Cork Products:** Synthetic view of the wood and non-wood forest products in Portugal. The specifics of the cork oak agro forests, a multifunctional savanna-type forest, and of the sustainable exploitation of the trees for production of cork. Characterization of cork regarding cellular structure, chemistry and the resulting unique set of properties. Cork products, from wine stoppers to surfacing and insulation agglomerates as well as design objects. Function of wine stoppers for wine in-bottle aging and quality assessment.
 - 5. Agro-residues Valorization:** Agro-industrial production chain – towards sustainability (framework, impacts and change drivers). Moving from a linear towards a circular economy. Efficient use of resources, water-energy nexus. Converting agro-residues into secondary raw materials (biorefinery concept, nutrients recycling, water recovery). Waste to bio-energy solutions.

Practical sessions

Practical sessions will be performed on sensory analysis of solutions with basic tastes. Portuguese olive oils and wines, with the most important attributes for each product type (positive or negative attributes), will be tasted.

Field Trips:

The following trips will be organized (8 h each; total of 24 h):

Trip 1) Coruche- Montado and cork factory;

Trip 2) Alentejo: Olive oil extraction plant and winery;

Trip 3) Alentejo: cultural heritage.