

30839 - Enrichment in the Oil, Sugar and Cereal Derivatives Sector

Syllabus Information

Academic year: 2024/25

Subject: 30839 - Enrichment in the Oil, Sugar and Cereal Derivatives Sector

Faculty / School: 105 - Facultad de Veterinaria

Degree: 568 - Degree in Food Science and Technology

ECTS: 5.0

Year: 4

Semester: Second semester

Subject type: Optional

Module:

1. General information

The general objective is to focus on three sectors of the vegetable industry, the oil, sugar and cereals and their derivatives. Aspects of technology, quality and safety, marketing and environment will be discussed.

These goals are aligned with the following Sustainable Development Goals (SDGs) of the 2030 Agenda of United Nations (<https://www.un.org/sustainabledevelopment/es/>):

Goal 2: Zero hunger

Goal 3: Health and Wellness

Goal 4: Quality Education.

Goal 5: Gender Equality.

Goal 6: Clean water and sanitation

Goal 7: Affordable and non-polluting energy

Goal 12. Responsible Production and Consumption

It is important to have taken the subjects of the first three years, as well as the first four-month period of the fourth year (specifically Technology of Vegetable Products).

2. Learning results

The student, in order to pass this subject, must demonstrate that:

1. Knows the technologies for processing and refining seed oils, the process for obtaining olive oil, the processing and refining of sugar and the stages for the transformation of cereals into flours and derivatives.
2. Is capable of designing the flow chart for obtaining vegetable oils, sugar and its derivatives and flours and cereal derivatives of quality and added value.
3. Identifies and controls the factors in the processing of vegetable oils, sugar and cereals and derivatives that can modify the quality of the final products.
4. Identifies the pollutants generated in the different processes studied.
5. Knows the proper management of waste generated in the different processes studied.
6. Is able to explain and apply the concepts of food safety, quality and legal regulations to the oil, sugar and cereal derivatives sectors.
7. Knows and knows how to explain the structural aspects of the market for oil, sugar and products derived from cereal.
8. Knows and can explain the Common Market Organizations (CMO) for oil, sugar and cereals and their implications for the food industry.
9. Knows the socio-cultural factors that condition the technical evolution of production, transformation, uses and consumption of oil, sugar and cereals at the regional and international cooperation levels.

3. Syllabus

BLOCK I- OIL SECTOR

- Extraction of oil from oilseeds.
- Olive oil extraction.
- Factors affecting olive oil quality
- Quality control of fats and oils.

BLOCK II- SUGAR SECTOR

- Beet and cane sugar extraction.
- Candies and sweets. Chocolate

BLOCK III- CEREAL DERIVATIVES SECTOR

- Grain milling
- Baking technology, cookie and bakery products processing, pasta and breakfast cereals processing, bakery technology, cookie and pastry products processing, pasta and breakfast cereals
- Rice processing and brewing

Each block will deal with environmental aspects, food safety, quality and legal regulations, market and marketing

4. Academic activities

The subject is structured in 22 participative lectures, 19 hours of seminars, 4 hours of laboratory practices and 5 hours of industry visits

The student must also complete a practical assignment. The assignment to the students of the different topics will be made at the beginning of the term. The students will develop the project in groups of two. Once it has been prepared, the work will be presented orally.

5. Assessment system

Continuous evaluation

1. Written test . 50 multiple-choice questions with four possible answers and only one correct answer, where incorrect answers will be penalized (-0.25). 50% of the final grade of the subject.
2. Evaluation of the practical work of a topic to be chosen among several proposed by the teacher, which should integrate all aspects of the subject (technology, quality and safety, marketing, environmental). 40% of the final grade of the subject.
3. Preparation of reports on practices, visits and seminars. 10% of the final grade of the subject. Clarity and conciseness in the preparation of reports will be valued.

In the case of not passing any of the continuous assessment tests, they must pass them in the global test.

Overall test

70 multiple-choice questions (with four possible answers and only one correct answer, where incorrect answers will be penalized - 0.25) corresponding to the theoretical and practical teaching and to the visits carried out. 100% of the final grade.

A minimum grade of 5 out of 10 must be obtained in all the tests, and the weighted average of the four tests must be equal to or higher than 5.

6. Sustainable Development Goals

- 2 - Zero Hunger
- 4 - Quality Education
- 12 - Responsible Production and Consumption