

Products Derived from Alcoholic Fermentation

Code: 103227
ECTS Credits: 3

2025/2026

Degree	Type	Year
Food Science and Technology	OT	4

Contact

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Teachers

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

There are no prerequisites for this subject. There is a limitation on the number of students to 36 people. The selection will be based on the number of credits passed and the academic record

Objectives and Contextualisation

Products derived from alcoholic fermentation are widely represented in many cultures around the world and are commonly consumed. Products that retain a high ethanol content in their final form are usually consumed only by the adult population. However, there are others for which alcoholic fermentation is only an intermediate stage before producing the final product (bread, vinegars, etc.).

Within the subject, the wine industry will be the backbone of the theoretical classes and a thread of the processes used in other products. The other two products, also important in our environment, beer and cider, will be covered more briefly. Students will develop other auxiliary topics through their work.

The objective is for students to learn about this industry, which is very important in the Mediterranean environment, and to develop relationships with industrial processes, biochemical changes, and microbiological processes that they have studied in previous years.

Competences

- Apply knowledge of the basic sciences to food science and technology.
- Apply the principles of processing techniques and evaluate their effects on the quality and safety of the product.
- Develop individual learning strategies and planning and organisation skills.
- Identify pathogenic, spoilage, and industrially-useful microorganisms, along with the conditions that are favourable or unfavourable to their growth in foods and in industrial and biotechnological processes.
- Search for, manage and interpret information from different sources.
- Show understanding of the mechanisms by which raw materials deteriorate and the reactions and changes that take place during storage and processing, and apply the methods for controlling this.
- Use IT resources for communication, the search for information within the field of study, data processing and calculations.

Learning Outcomes

1. Apply the technological processes that are specific to milk and dairy products, meat and meat derivatives, fish products, egg products and vegetable products, and understand the modifications to the final product that these processes make.
2. Describe the processes of spoilage and deterioration of foods.
3. Design complex processes in accordance with the established quality criteria.
4. Develop individual learning strategies and planning and organisation skills.
5. Foresee and solve problems that are specific to the food industries.
6. Recognise the importance of fermentation processes and appreciate the role of microorganisms in industrial processes.
7. Relate the characteristics of foods to their physical properties.
8. Search for, manage and interpret information from different sources.
9. Select processes of conservation, transformation, transport and storage that are suited to foods of animal and plant origin.
10. Use IT resources for communication, the search for information within the field of study, data processing and calculations.

Content

Expositive-participatory classes

- Raw materials
 - Grape
 - Cereals
- Prefermentative operations
 - Grapes pressing
 - Conversion of starch into sugars (endogenous enzymes or co-culture with fungi)
- Agents of fermentation
 - Yeasts
 - Conversion of sugars
 - Effect of temperature
- Maturation and ageing
 - Evolution and ageing
 - Modifications carried out by bacteria

Practical classes

- Brewing
- Sensory analysis of wines and beers
- Visits to producers

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Expositive lectures	10	0.4	1, 2, 6, 9
Laboratory practical sessions	9	0.36	1, 4, 3, 5, 6, 7, 9
Visites	5	0.2	3, 6, 9
Type: Supervised			
Mentoring	5	0.2	4, 6
Type: Autonomous			
Preparation and development of the extension of the syllabus the form of audiovisual material	16	0.64	8, 4, 10
Preparation of reports of practical sessions and visits	13	0.52	4
Self-study work	13	0.52	4

The methodology used in this subject to achieve the learning process is based on making the student work the information that is available to him. The function of the teacher is to give him the information or tell him where he can get it, help him and tutor it so that the learning process can be carried out effectively. To achieve this goal, the subject is based on the following activities:

Expositive lectures

The content of the theory program will be given by the teaching team in the form of expository classes. The theoretical classes will be complemented with the visualization of animations and videos related to the subjects treated in class. The visual aids used in class by the teacher will be available on the Virtual Campus. It is recommended that students print this material and take it to class to use it as a support when taking notes. Although it is not essential to extend the contents of the classes taught by the teacher unless expressly requested by the latter, it is advised that students regularly consult the books recommended in the Bibliography section in order to consolidate and clarify, if necessary, the contents explained in class.

With these lectures, the student acquires the basic scientific-technical knowledge of the subject that must complement with the personal study of the subjects explained.

Laboratory practices

The students will go to the practical sessions with the script. A brief questionnaire will be made at the beginning of the session to validate that the students read the instructions previously. We want to enhance the development of planning skills, observation and manual skills. Students will be taught in the handling of processing and control equipment and devices, learning to record their observations and discoveries, evaluating the results and discovering the links between theory and experimental work

After the practice session, the students will prepare a collective report for each group of work in the laboratory.

Mentoring

The tutorial sessions aim to direct and help the student in their training. Tutoring hours will be used to resolve doubts about the contents of the subject. Students can take the tutorials to ask questions, comment or raise doubts that have emerged throughout the course.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Delivery of reports of laboratory practices (group activity)	25% of global evaluation	0.5	0.02	4
Elaboration of materials in the form of a short video (group activity) and qualification of the subjects elaborated by the other groups (individual activity). The video activity is divided into 3 steps: information research, script development, and video	40% of global evaluation	2.5	0.1	8, 4, 3, 5, 6, 10
Final exam (individual evaluation)	35% of global evaluation	1	0.04	1, 2, 3, 5, 6, 7, 9

To be eligible to be assessed for the subject, it will be necessary to have completed the practical sessions. Only a maximum of one session is allowed to be missed. Visits do not count towards this requirement.

Continuous assessment activities:

- Final written exam. It will include the topics presented in the lectures and the topics prepared by the students and available for study through the Virtual Campus of the subject (35%).
- Reports on internships and visits (25%).
- Topics developed by students. The material prepared by the group (30%) and the evaluations made on the topics prepared by the other groups (10%) will be graded.

To be entitled to the calculation of the result of the continuous assessment, the student must have obtained at least a 3 in each of the three parts. In case of do not reach this threshold, the subject will be considered to have failed with a grade of 4.

The retake of the subject will consist of an oral examination of the topics presented in the lectures and the topics prepared by the students and available for study through the Virtual Campus of the subject, which will be worth 35% of the retake grade. A new submission of the topic assigned and developed by the student may be made, which will weight of 40% in the retake grade. To these exercises, the grade of the previously evaluated practice report will be added, which will be worth 25% of the retake grade. To participate in the retake, the student must have participated in all 3 elements of the continuous assessment and have obtained at least a 3 in each of the parts.

A student is considered not assessable if he or she has not participated in assessment activities that represent $\leq 15\%$ of the final grade.

If a student registers for the subject for the second time, they will have to take the written exam and the development of specific topics again. Repeating visits and practices is optional, and the student can decide to keep the grade obtained in the first registration.

This subject does not include a single assessment system.

Artificial Intelligence (AI) technologies are allowed as an integral part of the development of the work, provided that the result reflects a significant contribution of the student in the analysis and personal reflection. The student must clearly identify which parts have been generated with this technology, specify the tools used and include a critical reflection on how these have influenced the process and the final result of the activity. The lack of transparency in the use of AI will be considered a lack of academic honesty and may lead to a penalty in the grade of the activity, or greater sanctions in serious cases.

Bibliography

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Software

It will be necessary to use some office automation package to elaborate the works that the teachers commission. The contents will be conveyed through the Virtual Campus of the subject.

In case it is necessary to do synchronous activities remotely, the Teams platform will be used, where students must access using their institutional e-mail.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	1	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	2	Catalan	first semester	morning-mixed

(TE) Theory	1	Catalan	first semester	afternoon
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