

Academic Year/course: 2022/23

30828 - Applied Food Hygiene

Syllabus Information

Academic Year: 2022/23

Subject: 30828 - Applied Food Hygiene

Faculty / School: 105 - Facultad de Veterinaria

Degree: 568 - Degree in Food Science and Technology

ECTS: 6.0

Year: 3

Semester: Second semester

Subject Type: Compulsory

Module:

1. General information

1.1. Aims of the course

The subject and its expected results respond to the following approach and objective:

This subject contributes to the specific objective of the degree to train professionals in Hygiene and Food Safety to work in both private companies and the Public Administration as well as in the free professional practice. However, the competences that are acquired in it are also the basis of the professional exercise of all the professional opportunities of the graduated. It is included in the matter of "Microbiology and food hygiene" as a continuation of the subject "General Food Hygiene". Its general objectives are the acquisition of knowledge, skills and abilities by students that allow them to:

- a) develop General Hygiene Plans in the food industry both in a generalized and applied way.
- b) identify, prevent and control hazards in the different food sectors through the application of good hygiene practices.

The approaches and objectives of the subject are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the learning outcomes of the subject provides training and competence to contribute to some extent to its achievement:

Goal 3: Health and well-being.

Goal 4: Quality education.

Goal 6: Clean water and sanitation.

Goal 12: Responsible production and consumption.

1.2. Context and importance of this course in the degree

This subject, which is included in the matter "Microbiology and food hygiene", is directly related to "General Food Hygiene". What is more, both are the basis of the subject of the 4th year entitled "Food Safety Management". Students, by passing this subject, will have acquired the skills and knowledge necessary to apply the general concept of food hygiene to the different sectors of the food industry. In the same way, this subject supports knowledge for the realization of the matter "Integration of Teachings".

1.3. Recommendations to take this course

In general, this subject requires having previously completed all the basic subjects programmed in the first year of the Degree and those of the disciplinary matter of "Microbiology and food hygiene" of the second and third year. In particular, it is considered advisable to have taken the subjects of "Food Microbiology", "Microbiological Analysis of Food" and "Food Technology I" and to have passed the subject of General Food Hygiene that is taught in the first semester. It would also be advisable to have an average command of English.

On the other hand, due to the fact that a supervised work is going to be carried out in coordination with the subjects of "Food Legislation" and "Food Technology II", it is considered essential to take them simultaneously.

2. Learning goals

2.1. Competences

The passing of the subject contributes to the acquisition of the following skills:

Basic and general:

That students know how to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

That students have the ability to gather and interpret relevant data (usually within of their area of study) to make judgments that include a reflection on relevant topics of a social, scientific or ethical nature.

That students can transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.

That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

Manage information, search for sources, collection and analysis of information, etc.

Use ICTs.

Work as a team.

Think and reason critically.

Work autonomously and carry out a self-assessment CG6 - Respect the diversity and plurality of ideas, people and situations.

Transmit information, orally and in writing in both Spanish and English.

Show environmental sensitivity, assuming an ethical commitment.

Negotiate with both specialists in the area and with non-experts in the field.

Adapt to new situations and solve problems,

Undertake and be motivated by quality

Specific:

Identify the danger agents in the phases of the food chain, assess the risk and design prevention and control systems.

Apply the basic tools of food safety management.

Design, apply and maintain self-control protocols, internal audits and traceability systems in the food industry.

Advise on the interpretation and application of food legislation, of reports and administrative files.

Scientifically and technically advise the food industry.

Communicate knowledge in food science and technology, using the concepts, methods and fundamental tools of this discipline

2.2. Learning goals

The student, to pass this subject, must demonstrate the capability of:

1. Recognize the basic procedures that underpin the codes of good practice in food production.
2. Develop, apply and maintain good hygiene practices, at any stage of the food chain, applying current legislation.
3. Coordinate and carry out continuous training on food hygiene issues, especially in relation to food handlers.
4. Identify the main factors that cause the appearance of foodborne diseases in the different sectors of the food industry.
5. Detect hygienic-sanitary problems in the different sectors of the food industry
6. Establish General Hygiene Plans (PGHs) as basic hygienic prerequisites in food establishments in the different agri-food sectors.
7. Identify and verify the correct criteria for the development of PGHs in the different agri-food sectors.
8. Know and manage the basic sources of information related to Food Hygiene and especially with guides of good hygiene practices as a tool to ensure the correct handling of food and establish the pertinent actions after the application of the corresponding legislation.
9. Develop, as a team, a project coordinated with other subjects in which the hygienic aspects related to the manufacturing process of a prototype food are detailed and deepened.

2.3. Importance of learning goals

The acquisition of competences from the learning results of this subject contribute in an important way, along with the rest of the subjects of the matter "Microbiology and food hygiene", to the training of students for the professional career. Specifically, the subject has its fundamental application in professional opportunities related to food safety but its knowledge is basic for the development of tasks related to the management and control of food quality, food processing, the development and innovation of processes and products in the food field and scientific, technical and legal advice in the food field. That is why it should be noted that their learning results are generally applicable to the objectives of the degree.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate the achievement of the expected learning results through the following evaluation activities:

Evaluation of the General Hygiene Plans (PGHs) and their application to the integration work. Value: 60% of the final grade of the subject. It will be evaluated by carrying out the following tests:

- Practical questionnaires at the beginning of each practical session: 5%. At the beginning of each of the first 5 practical sessions, a brief questionnaire of test questions and / or short questions related to the theoretical content of the subject will be worked on in an applied way in the corresponding practical session
- Written exam (Test I): 40% It will be carried out on the dates determined by the academic regime of the Center. The test will consist of a written exam in which questions will be asked regarding the theoretical contents of the PGH and the practical contents of the integration work related to the PGH.
- Presentation and group defense of the integration work: 15% This test will consist of an exhibition and defense of an autonomous monographic work, carried out in a group, on the hygienic aspects related to the process of preparing a food in which legal, hygienic and technological criteria will be integrated in coordination with the subjects of "Food Legislation" and "Food Technology II". The presentation and discussion of the work carried out constitutes the last programmed practical session of the subject.

Evaluation of Hygiene Contents applied to the different food sectors.

Written exam (Test II): 40% of the value of the final grade of the subject. It will be carried out on the dates determined by the Center. The test will consist of a written exam on the theoretical contents of the program of the subject related to hygiene applied to the different food sectors, which will be carried out in the same call as the written evaluation exam of the PGH.

Evaluation criteria and level of demand.

To pass the subject it is necessary to obtain a final grade equal to or greater than 5 points out of 10. This grade will be obtained from the weighted average of the grades obtained in the different evaluation tests. Written exams I: The student's ability to acquire knowledge, written expression and writing, as well as the critical and applicative capacity of the knowledge acquired, will be assessed. Answers that demonstrate profound and/or conceptual ignorance of the subject will be negatively valued. To be able to pass the subject, it is necessary to obtain, at least, 4 points out of 10 both in test I (PGH) and in test II (Hygiene applied to the different food sectors). The grade obtained will be kept until the second call of the same academic year.

Presentation and group defense of the work:

The ability to solve problems will be evaluated from the knowledge provided in the theoretical and practical teachings, as well as the ability to search and analyze information. Approaches that demonstrate profound and/or conceptual ignorance of the subject will be negatively valued. Those evaluation works in which evidence of plagiarism is detected will be considered with a suspense rating (0 points out of 10).

The grade obtained in this test will be kept until the second call of the subject of the same academic year.

In the case of not attending the practical sessions and whenever there are more than two absences of attendance, the evaluation of the practical knowledge will be carried out through the presentation and defense of an autonomous monographic work on the hygienic aspects related to the process of elaboration of a food agreed with the teacher and carried out individually, which will have a value of 20% of the final grade of the subject.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process that has been designed for this subject is based on theoretical presentation activities by the teacher, practical sessions in which the PGH are elaborated as part of a coordinated supervised work, as well as special practices of visits to food establishments. For the development of the different activities, the student will have the necessary teaching material through individual access to the subject on the digital platform of the University. Students are recommended to

complete their notes, through the consultation of the bibliographic sources and recommended information. These recommended bibliographic and information sources, as well as the tables, graphs and documents that will be used in the theoretical and practical activities are in English on many occasions, so the student must have an average knowledge of this language.

In relation to the general approach of the coordinated work, this will be supervised in a specific way in its hygienic applications by the coordinators of the subject in a way that promotes the capacity of work, synthesis and research of the student.

During the development of the classes, students will have to take into account all the procedures and rules that are included in the following documents: "Preventive Guide for the Student of the University of Zaragoza", which is available at the following address:

https://uprl.unizar.es/sites/uprl.unizar.es/files/archivos/Procedimientos/guia_preventiva_para_estudiantes.pdf

Manual de seguridad en los laboratorios de la Universidad de Zaragoza:

<https://uprl.unizar.es/sites/uprl.unizar.es/files/archivos/Procedimientos/manualdeseguridadenloslaboratoriosdelauniversidaddezaragoza.pdf>

In addition, the indications given in terms of safety by the teacher responsible for the classes will be followed.

4.2. Learning tasks

The scheduled learning activities include 39 hours of participatory master classes, 18 hours of practical activities (of which 3 hours are dedicated to the integration of hygienic, legal and technological knowledge), and 3 hours of visits to food facilities.

The course includes the following learning tasks:

- The lectures (39 hours). They will take place in the classroom will be participative. In these sessions, the theoretical contents listed in the syllabus will be showcased in a reasoned way.
- The practical activity will be developed in six sessions of 3 hours each. In these practices, students must elaborate in a group the general hygiene plans (PGH), applied to a model of elaboration of a previously assigned food product and, which will be elaborated taking as a reference of the food industry, the facilities, equipment and utensils of the Pilot Plant of Science and Technology of Food (PPCTA).

At the beginning of each practice the students must answer a questionnaire related to the theory of what will be worked on in the practical session.

- The guided work developed in groups will take place in coordination with the subjects of ?Food law? and ?Food technology II). The students into groups, will assess since a legal, hygienic and technological point of view, the process in which a food product is manufactured. This work will be presented and discuss at a joint meeting of the three courses previously mentioned, Prior to the exhibition, the main topics of the work to be discuss, must be given to the teachers in a writing script.
- The formation of the student will be complemented through the programming of a visit to centers, institutions, laboratories or food companies to learn on-site about the practical application of the knowledge acquired. 3 hours of visits to food industries and 3 h of integration of hygiene, legal and technological issues.

4.3. Syllabus

The course will address the following topics:

Lectures

- Topic I: Good hygienic practices in the food industry. Good hygiene practices in primary production. Equipment suitability and maintenance. Handling, storage and transport. Water control. Cleaning and disinfection. Pest control. Personal hygiene and employee facilities. Product rework procedures: good manufacturing practices. Waste disposal.
- Topic II: Hygiene in the production, distribution and commercialization in the different food industries. Food hygiene applied to foodstuffs of animal origin: meat and meat products, milk and dairy products, fish and products thereof, egg and egg products. Food hygiene applied to foodstuffs of plant origin. Food hygiene in catering.

Practice sessions. Development of programs of good hygiene practices in the different food industries.

- Practice 1 to 5: design of programs of good hygiene practices applied to a model of food processing, thought to be made in the pilot plant of science and technology.
- Practice 6: exposure and public discussion of the design of the Good Hygiene Practices developed by each group and integration of it with technological and legal aspects.

Visit to a food industry. Practical application of the good hygiene practices in food companies.

4.4. Course planning and calendar

For further details concerning the timetable, classroom and further information regarding this course please refer to the website of the Faculty of Veterinary Medicine: <https://veterinaria.unizar.es/academico/plan-estudios-grado-cta>. This link will be updated at the beginning of each academic year.

4.5. Bibliography and recommended resources

The updated bibliography is incorporated through the Library Center and can be accessed by the web.