29205 - Food Microbiology

Información del Plan Docente

Academic Year	2017/18
Faculty / School	229 - Facultad de Ciencias de la Salud y del Deporte
Degree	441 - Degree in Human Nutrition and Dietetics
ECTS	6.0
Year	1
Semester	Second semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

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

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process that has been designed for this subject is based on the following:
The subject is structured in 30 participatory theory sessions, 10 hours of seminars organized in sessions of approximately 2 hours and 20 hours of laboratory sessions. Work will be carried out on seminars and practices to be presented in one of the seminar sessions.
The theory sessions and laboratory sessions are developed in parallel to achieve a better understanding of the subject.

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5.2.Learning tasks

The program offered to the student to help achieve the expected results includes the following activities:
Participatory theory sessions: Assistance is required, 30 hours. The basic theoretical knowledge of the subject is presented.
Laboratory sessions: Assistance is required, 20 hours. They will take place in the Laboratory of Microbiology, in groups of approximately 14 students.
Seminars: Assistance is required, 10 hours.
Practical works supervised: 5 hours.
Final written assessment: 2 hours per call.

5.3.Syllabus

Theoretical program.

The microbial world. Brief History of Microbiology.

Microbial growth. Requirements. Growth phases.

Microbial ecology.

Control of microorganisms in food. Physical and chemical methods. Antimicrobial agents.

Foodborne pathogens. Pathogenicity determinants. *Salmonella* . *Shigella* . *Escherichia* . *Yersinia* . *Campylobacter* . *Staphylococcus* . *Clostridium* . *Listeria* . *Bacillus* . *Brucella* . *Mycobacterium* .

Toxigenic fungi: *Aspergillus* , *Fusarium* , *Penicillium* .

Virus. Enterovirus. Norwalk virus. Rotavirus.

Prions and transmission to human food.

Food-borne parasites.

Food spoilage, microbial growth and alteration of fresh meat, fish and vegetable products.

Practical program

Preparation of culture media.

Staining and observation of microorganisms.

Identification of microorganisms. Biochemical tests.

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Antimicrobial sensitivity study.

Microbiological analysis of food

5.4.Course planning and calendar

-Theoretical classes Monday and Tuesday from February 12 to May 29.
-Practical classes and seminars from February 12 to May 29, according to groups to be announced the first week of February and according to the schedule established by the center.
-Final exam:
First call: June 2018 (Date to be determined by the center)
Second call: September 2018 (Date to be determined by the center)

5.5.Bibliography and recommended resources