

29207 - Food Toxicology

Syllabus Information

Academic year: 2023/24

Subject: 29207 - Food Toxicology

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

The general objective of this subject is for the student to know the potential toxicity associated with food consumption, as well as to acquire the basic notions about the capacity of chemical substances to cause harm in living beings.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>) so that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement: health and well-being, clean water and sanitation, responsible production and consumption .

2. Learning results

Upon passing the subject, the student will be competent in the description of the generic mechanisms involved in toxicity and in the knowledge of the origin of toxic substances in food.

They must also demonstrate the ability to perform a toxicity and chemical risk assessment. To know which are the main families of chemical substances and those potential contaminants of food.

3. Syllabus

Theoretical classes:

1. Introduction
2. Chemical and Biochemical Bases
3. Toxicokinetic
4. Toxicodynamic
5. Aetiology, clinical manifestations and treatment of poisonings
6. Toxicity assessment
7. Influence of technology on food toxicology
8. Toxic substances of natural origin
9. Toxic substances of fungal origin
10. Food additives.
11. Toxicity of organic solvents
12. Toxicity of metals
13. Pesticide Toxicity
14. Toxicity of Plastics
15. Toxicity of Gases
16. Foodborne toxic epidemics
17. Analytical Toxicology

Practical classes:

1. Seminar on analytical techniques
2. Practical classes:
 - Colorimetric reaction
 - Thin layer chromatography

4. Academic activities

The subject is structured as follows:

20 hours of lectures: explanatory and/or demonstrative sessions of contents, using the blackboard and/or audiovisual material with computer support.

28 Hours Group seminars for problem solving and case studies.

8 Practical hours of Analytical Toxicology in the laboratory.

30 Hours of on-line computer workshop for learning through case studies

5. Assessment system

The acquisition of theoretical knowledge and practical skills will be assessed.

1. In relation to the theoretical part, students will have an exam of the complete subject in June:

60% of the final grade. The exams will be of the multiple-choice type.

2. Individual work (seminar, problem solving and case studies): 30% of the final grade. Students who cannot attend (for justified reasons) the seminars (), will be assigned a paper to be submitted in electronic format.

3. Attendance and participation in problem solving sessions: 10% of the final grade.

4. Attendance to the practices is mandatory. In the case of not being able to attend (for justified reasons), questions related to them (no more than 15%) will be included in the exam of the subject..