COURSE DATA

DATA SUBJECT

Code: 41026
Name: Food Safety
Cycle: Master's Degree / Doctorate
ECTS Credits: 10
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2021 - Master's Degree in Food Quality and Safety	Facultat de Farmácia i Ciències de L'alimentació	1	Annual

SUBJECT-MATTER

Degree	Subject-matter	Character
2021 - Master's Degree in Food Quality and Safety	Food safety	COMPULSORY

COORDINATION

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SUMMARY

The Food Safety module aims to provide knowledge necessary to estimate the risks associated with exposure to natural or synthetic toxicants in foods depending on the consumption habits and characteristics of different population subgroups.

The module will cover the toxicants of most concern, the sources of exposure and the processes leading to their formation. In addition, the mechanisms of action of these toxicants, their effects on the health of consumers and prevention strategies through the establishment of safety limits that allow the protection of the population will also be studied.

Students will be introduced to the fundamental processes of risks assessment, management and communication in the field of food safety.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

Not applicable

COMPETENCES / LEARNING OUTCOMES

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Adquirir conocimientos sobre los procedimientos reglamentarios en la gestión de la calidad alimentaria

Adquirir habilidades en las técnicas y métodos de análisis que permiten evaluar distintos aspectos de la seguridad de los alimentos.

Capacidad para adaptar los procesos relacionados con los alimentos a las normas vigentes de higiene de los alimentos y sistemas de gestión de calidad.

Capacidad para interpretar los datos obtenidos de la evaluación del riesgo y extrapolación al hombre. Establecimiento de límites de seguridad.

Conocimiento de los compuestos tóxicos procedentes de la fabricación de alimentos.

Conocimiento de los conceptos básicos de higiene de los alimentos. Medidas higiénicas y preventivas.

Conocimiento de los métodos más empleados para evaluar riesgos por la presencia productos químicos y tóxicos en alimentos y medidas para su control.

Conocimiento y capacidad para estimar los riesgos asociados a la exposición de sustancias químicas y de tóxicos biológicos en productos de consumo.

Contemplar en conjunto y tener en cuenta los distintos aspectos y las implicaciones en los distintos aspectos de las decisiones y opciones adoptadas, sabiendo elegir o aconsejar las más convenientes dentro de la ética, la legalidad y los valores de la convivencia social.

Elaborar y manejar los escritos, informes y procedimientos de actuación más idóneos para los problemas suscitados.

Know how to work in multidisciplinary teams reproducing real contexts and contributing and coordinating their own knowledge with that of other branches and participants.

Manejar la metodología estadística y saber analizar problemas y aplicar las herramientas estadísticas más apropiadas en cada caso.

Obtener la formación necesaria para incorporarse a Departamentos de Investigación, Desarrollo e Innovación dentro de las empresas del sector agroalimentario.

Participate in, lead and coordinate debates and discussions, be able to summarize them and extract the most relevant conclusions accepted by the majority.

Planificar, ordenar y encauzar actividades de manera que se eviten en lo posible los emprevistos, se

prevean y minimicen los eventuales problemas y se anticipen sus soluciones.

Proyectar sobre problemas concretos sus conocimientos y saber resumir y extractar los argumentos y las conclusiones más relevantes para su resolución.

Ser capaces de obtener y de seleccionar la información y las fuentes relevantes para la resolución de problemas, elaboración de estrategias y asesoramiento a clientes.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should demonstrate self-directed learning skills for continued academic growth.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

Use different presentation formats (oral, written, slide presentations, boards, etc.) to communicate knowledge, proposals and positions.

DESCRIPTION OF CONTENTS

1. Food Safety

- Quality in companies in the agri-food sector: Certification, management and audits.
- Food Risk Assessment.
- Microbiological food safety.
- Control of chemical contaminants in food.
- Analysis of environmental contaminants of food interest.
- In vitro and in vivo Toxicological studies.
- Techniques and biological samples of toxicological interest in food safety.
- Techniques for detection and identification of pathogenic microorganisms in food.
- Importance of detecting viruses in food.
- Toxic effects of yeasts in foods.

- Food allergens.
- Risk Assessment of exposure to metals.
- Risk assessment for exposure to mycotoxins.
- Risk assessment of exposure to nano and microparticles.
- Pesticide residues in food and risk assessment.
- Risk assessment of polycyclic aromatic hydrocarbons and dioxins.
- Residues of veterinary drugs in food.
- Risks derived from the consumption of alkaloids in foods.
- Toxicological risks of food supplements.
- Food Security Programs.
- Total diet studies in Food Safety

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	85,00
Total hours	**85,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	18,00
Individual or group project	20,00
Independent study and work	33,00
Preparation of lessons	90,00
Preparation for assessment activities	4,00
Resolution of case studies	0,00
Total hours	**165,00**

TEACHING METHODOLOGY

Theoretical classes: the lecturer, an expert in the subject to be covered, will provide the student with information on the subject to be studied (basic and/or complementary) previously in the virtual classroom. In order to follow the class, the student is recommended to review this material beforehand.

Group work activities: The lecturer may propose individual and/or group activities to the Master's students.

Conferences will be held on specific topics of interest such as entrepreneurship, food safety, industrial doctorate and food innovation.

During the theoretical classes and activities, the applications of the subject contents in relation to the Sustainable Development Goals (SDG) will be indicated. These aims are to provide knowledge, skills and motivation to understand and address these SDGs, while promoting reflection and criticism.

EVALUATION

To order to evaluate the theory, tests will be carried out throughout the teaching period of the subject. These tests may be written and/or online. The exam will consist of multiple-choice questions. A mark of higher than 5 is required to pass the course.

Individual and/or group evaluable activities may be carried out, which will contribute a maximum of 10% to the final grade

REFERENCES

Lecturas recomendadas por los profesores y profesoras disponibles en bases de datos de la UV o accesibles por internet.

https://www.aesan.gob.es/AECOSAN/web/home/aecosan_inicio.htm

http://www.efsa.europa.eu/es, https://food.ec.europa.eu/safety/rasff_en

https://www.aesan.gob.es/AECOSAN/web/seguridad_alimentaria/subseccion/SCIRI.htm