

FOOD HYGIENE AND SAFETY

MODULE	CONTENT	YEAR	TERM	CREDITS	TYPE
Food Hygiene and Safety and Quality Management	Food Hygiene and Safety	4th	2nd	6	Compulsory
LECTURER(S)			Postal address, telephone n°, e-mail address		
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DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT			Degree in Science and Food Technology		
PREREQUISITES and/or RECOMMENDATIONS (if necessary)					
It is recommended to have studied the basic subjects and the subjects Food Technology, General Microbiology and Food, Parasitology and Food, Food Toxicology and Culinary Technology.					
BRIEF ACCOUNT OF THE SUBJECT PROGRAMME					
Hygiene, food safety and food risk control systems. Organization and food services and food companies management. Training of food service professionals. Implementation and monitoring of food quality systems and general hygiene plans. Food traceability					
GENERAL AND PARTICULAR ABILITIES					
Basic CB4. The students can transmit information, ideas, problems and solutions to a specialized and					



non-specialized public.

CB5. Students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

Transversal

CT1. Ability to express oneself correctly in Spanish language in its field discipline

CT2. Problem resolution.

CT3. Teamwork.

CT4. Ability to apply theoretical knowledge to practice.

CT5. Decision making.

CT7. Capacity for analysis and synthesis.

CT8. Critical thinking.

CT12. Ability to manage information.

CT13. Capacity for adapting to new situations.

Specific

CE3. Know the techniques and perform food analysis to ensure optimal conditions for human consumption.

CE7. Analyse the biological, physical and chemical hazards of the food chain in order to protect public health.

CE8. Apply the rules of food hygiene to the design of industries, as well as to food processes and products, to ensure the management of food safety according to the established legal framework.

CE14 Evaluate, control and manage strategies and plans for prevention and control of diseases caused by food consumption.

CE15. Inform, train and advise the public administration, the food industry and consumers, legally, scientifically and technically, to design intervention and training strategies in the field of food science and technology.

OBJECTIVES (EXPRESSED IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)

Know the current legislation related to food safety and be able to develop new safety standards, as well as perform a food inspection.

To develop food quality control systems for a food company (Hazard Analysis and Critical Control Points and General Hygiene Plans).

To be able to advise companies in the food and catering sector on aspects related to quality, food safety and the development of new products and their labelling.

DETAILED SUBJECT SYLLABUS



Theoretical syllabus:

General concepts

Lesson 1. Concepts of Food Safety and Hygiene, evolution and scope of application.

Quality requirements in food hygiene

Lesson 2. Risks associated with food.

Lesson 3. Main factors that influence microbial growth. Sanitary quality criteria and food and drinks for human consumption innocuousness.

Lesson 4. Environmental contamination by physical agents. Ionizing and non-ionizing radiation. Health effects

Lesson 5. Self-control system. General aspects of a self-control system.

Lesson 6. Prerequisites. General considerations of the general hygiene plans.

Lesson 7. Guide to water control in the food industry: Physical-chemical characters.

Lesson 8. Guide to control water in the food industry: Microbiological characters.

Lesson 9. Guide to control water in the food industry: Water treatment.

Lesson 10. Guide to control water in the food industry: Disinfection of water.

Lesson 11. Guide to control water in the food industry: Disinfection processes.

Lesson 12. Problems related to water control in the food industry. Water control plan in the food industry

Lesson 13. Packaged waters, natural mineral waters, spring waters and water quality of rearing of molluscs.

Lesson 14. Guide to control liquid wastes in the food industry: Composition and collection.

Lesson 15. Guide to control liquid wastes in the food industry: Treatments. Legal regulations.

Lesson 16. Guide of control of solid wastes of the food industry: Composition and collection.

Lesson 17. Guide of control of solid wastes of the food industry: Treatments. Regulations in force.

Lesson 18. Guide to air control in the food industry: Biotic contamination.

Lesson 19. Air control guide in the food industry: Abiotic contamination.

Lesson 20. Guide to control of the cleaning and disinfection in the food industry.

Lesson 21. Guide of hygiene for food handlers and training programs.

Lesson 22. Plan of suppliers and equipment maintenance and hygiene of transport and distribution of food.

Lesson 23. Plagues and other undesirable animal control guideline.

Lesson 24. Traceability plan.

Lesson 25. Supervision of the food establishments and frequency based on the risk of the establishments. Adoption of measures in case of non-compliance.

Lesson 26. Inspection of food establishments and frequency based on the risk of establishments. Adopting measures against non-compliance.

Lesson 27. Specific hazards in food processing industry. Hazard analysis and critical control points system.

Lesson 28. Evaluation, management and communication of food risks. Epidemiological evidence. Network of food alert.

Lesson 29. Food labelling and food and food industries sanitary registration.

Lesson 30. National and international organizations related to food safety and hygiene.



Seminars

They will be taught during lectures on the contents of the program, according to the problems of Hygiene and Food Safety more prevalent or of greater interest to students.

Practical Sessions in the laboratory:

It will be taught during 15 classroom hours: 0.6 ECTS (10%)

Sessions 1. Sanitary control of air.

Sessions 2. Sanitary control of water. Chemical parameters.

Sessions 3. Coagulation-flocculation treatment.

Sessions 4. Determination of free chlorine and chloramines in water.

Sessions 5. Determination of the chlorine demand in water.

READING

BIBLIOGRAPHY

- ASQ Food, Drug and comestic. División 2003. HACCP. Manual del auditor de calidad. Editorial Acribia.
- Bello, J, García-Jalón M.I., y López de Cerain, A. (2000). Fundamentos de Seguridad Alimentaria. Ed. Eunate. Pamplona.
- Briz J (2003) Internet, trazabilidad y seguridad alimentaria. Ediciones Mundi-Prensa. Madrid.
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- Forsythe S.J., Hayes P (2002) Higiene de los alimentos, microbiología y HACCP. Editorial Acribia.
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- Losada Manosalvas S (2001) La gestión de la seguridad alimentaria. Editorial Ariel. Barcelona.
- Madrid, A.; Madrid, J (2001) Nuevo manual de industrias alimentarias. AMV-Ediciones y Mundi-Prensa, S.A. Madrid.
- Marriott, N G (2003) Principios de higiene alimentaria. Editorial Acribia.
- Mortimore S, Wallace C (2001) HACCP. Enfoque práctico. Editorial Acribia.
- OMS (2002) Estrategia global de la OMS para la inocuidad de los alimentos. Alimentos más sanos para una salud mejor. Ginebra.
- Recuerda Girela, MA (2006) "Seguridad Alimentaria y Nuevos Alimentos". Ed. Aranzadi, S.A. Navarra, España.
- Serra Majem L, Aranceta Bartrina J (2006) Nutrición y Salud Pública. Métodos, bases científicas y aplicaciones. Mason- Elsevier. 2ª ed. Barcelona.

COMPLEMENTARY BIBLIOGRAPHY

- Comisión Europea. Dirección General de Educación y Cultura. (2000) Alimentos sanos para ciudadanos europeos. Bruselas.
- Couto Lorenzo, L (2008) "Auditoría del sistema APPCC". Ed. Díaz de Santos, Madrid, España.
- Misaco Y Fiab (1995-2002) Guías prácticas de aplicación del sistema ARICPC a las distintas industrias de alimentos.
- Fernández-Crehuet Navajas, J *et al.* (2016) Medicina Preventiva y Salud Pública. 12ª ed. Ed. Masson. Barcelona.
- Seoáñez Calvo, M (2003). "Manual de tratamiento, reciclado, aprovechamiento y gestión de las aguas residuales de las industrias agroalimentarias". Coedición: A. Madrid Vicente y Mundi-Prensa, Madrid, España.
- Wildbrett, G (2000) "Limpieza y desinfección en la industria alimentaria". Ed. Acribia. Zaragoza.

RECOMMENDED INTERNET LINKS

- Agencia Española de Seguridad Alimentaria y Nutrición (AESAN): (<http://www.aesan.msc.es>)
- Agencia Estadounidense de Seguridad Alimentaria, *Food and Drug Administration* (FDA): (<http://www.fda.gov/>).
- Autoridad Europea de Seguridad Alimentaria (EFSA): (<http://www.efsa.eu.int/>)
- Centro Nacional de Epidemiología: <http://cne.isciii.es/>
- *Codex Alimentarius*: (http://www.codexalimentarius.net/web/index_es.jsp).
- Consejo Europeo de Información sobre la Alimentación (EUFIC): (<http://www.eufic.org/web/index.asp?cust=1&lng=es>).



- Normativa española: (<http://www.boe.es>).
- Normativa europea: (<http://europa.eu.int/>).
- Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO): (http://www.fao.org/index_es.htm).
- Organización Mundial de la Salud (OMS): (<http://www.who.int/es/>)

