One health in food safety and security

Organization: Universitat Autònoma de Barcelona

Teaching unit coordinator: Artur Xavier ROIG
Position: Professor

Teaching unit outline
In this module, the fundamental elements of food safety and security will be taught under the One Health approach through theoretical and practical sessions or by solving case studies. The main zoonoses transmitted by food, the factors associated with their presentation and their consequences for human health will be studied. Reservoirs, the most likely forms of contamination and their impact on different types of food will also be presented. The main policies related to food security will be discussed from a national, European and global perspective. Finally, the procedures for risk assessment and the detection of pathogens usually carried out by public health agents and the food industry will be taught.

Topics addressed
Evolution of management and communication policies in food safety and security: principles and proceedings for risk assessment in food safety; management and communication of risk in food safety; the concept of "Food defense" in food borne zoonoses.
Evolution of food borne zoonoses in Spain, Europe and Worldwide: effect of globalisation in food borne zoonoses; control tools in primary production; on-line information tools about food-borne outbreaks.
Food borne bacterial zoonoses: *Salmonella* spp., *Campylobacter* spp., *Yersinia enterocolitica*, *Listeria monocytogenes*, *Escherichia coli* VT, *S.aureus* and other coagulase-positive *Staphylococcus*; *Clostridium botulinum*, *C. perfringens* and *Bacillus cereus.*
Food borne parasitic zoonoses: protozoa; trematodes and cestodes; anisakiasis, trichinellosis and other zoonoses caused by nematodes.
Other food borne agents: viruses, like hepatitis A and E viruses, calicivirus and noroviruses; prions; mycotoxicosis and biotoxines.
Practical sessions: tertiary predictive models for process validation and risk assessment; data assessment from "challenge tests"
Laboratory practical sessions: protocols for the evaluation of the presence of pathogenic microorganisms in foods; use of microbiological biomarkers.
Workshop : nutritional crisis response (NGOs)

ECTS	Lectures and seminars	Tutorials	Practical work	Digital learning	Personal work
6	33 hours	18h	22 h		77 hours

Assessment method

Attendance and active participation in class	**10 %**
Attendance and active participation in the laboratory practices	**20 %**
Self-learning activities, and deliverables	**40 %**
Evaluation test of theoretical and practical content	**30 %**