

Course Unit	Option I - Cleaning, Disinfection and Safety		Field of study	-	
Master in	Technology and Animal Science		School	School of Agriculture	
Academic Year	2021/2022	Year of study	1	Level	2-1
Type	Semestral	Semester	1	ECTS credits	6.0
Code	5026-453-1105-09-21				
Workload (hours)	162	Contact hours	T 30	TP -	PL 24
			TC -	S 6	E -
			OT 20	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Elsa Cristina Dantas Ramalhosa, Vitor Manuel Ramalheira Martins

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. To know the national and European legislation related to issues of food safety and hygiene;
2. To establish and monitor the compliance of the Prerequisite Programs in its various forms, as well as the associated records;
3. To know the main active compounds used in cleaning and disinfection activities in the Agrifood sector;
4. To choose the cleaning and disinfection agents appropriate to specific situations;
5. To understand the importance of Good Practices in the Agrifood Sector and to know Good Practices of Hygiene and Manufacturing at catering and food businesses.

Prerequisites

Before the course unit the learner is expected to be able to:
Knowledge on food chemistry and toxicology, as well as on microbiology.

Course contents

- Importance and implementation of Prerequisites programs; - Importance and establishment of Good Practices Codes of Personal Hygiene and Manufacturing; - Cleaning and disinfection (main active principles of cleaning and disinfection; action mode of several detergents and disinfectants).

Course contents (extended version)

1. National and European legislation related to food safety and hygiene issues;
2. To establish and verify the compliance of Prerequisite Programs
 - Construction and location of the facilities. Principles of hygienic design;
 - Ventilation and lighting;
 - Maintenance Plans - Corrective and preventive actions; Equipment;
 - Traceability systems, reporting and collection;
 - Waste management;
 - Pest control;
 - Training plans;
 - Water quality control and analytical control.
3. Cleaning and disinfection
 - Cleaning;
 - Detergents: action mechanisms, constituents of the detergents e detergent formulation /choice;
 - Disinfection: types of disinfectants, action mechanisms and physico-chemical data;
 - Combination of cleaning and disinfection. Cleaning and hygiene plans.
4. Good Practices Codes of Personal Hygiene;
5. Good Practices of Manufacturing at the level of catering and food businesses
 - Food production, reception, storage, processing and distribution;
6. 4C's methodology to be applied to micro and small enterprises.

Recommended reading

1. Legislação Nacional e Europeia (Pacote Higiene) associada à Higiene e Segurança Alimentar;
2. Códigos de Boas Práticas publicados por associações do setor agroalimentar;
3. Marriot N. G. (2003). Principios de higiene alimentaria, Editorial Acriba, Zaragoza;
4. Lelieveld H. L. M. , Mostert M. A. , White B. and Holah B. (2003). Hygiene in Food Processing: Principles and Practices. Woodhead Pub. Inc. Abington, Cambridge, U. K. ;
5. Leveau, J. Y. and Bouix M. (1999). Nettoyage, désinfection et hygiène dans les bio-industries. Collection Sciences & Techniques Agroalimentaires. Editions TEC.

Teaching and learning methods

Theoretical and theoretical-practical lessons: based primarily on expository and active methods, but also occasionally using the interrogative method. Theoretical-practical lessons: group activities and study visit to a food processing company (if possible taking, into account the health situation of the country).

Assessment methods

1. Evaluation I - (Regular, Student Worker) (Final, Supplementary)
 - Final Written Exam - 80% (Final exam on the subjects taught.)
 - Practical Work - 20% (Written works and presentations made by the students.)
2. Evaluation II - (Student Worker) (Final, Supplementary)
 - Final Written Exam - 100% (Final exam on the subjects taught.)

Language of instruction

Portuguese

Electronic validation

Elsa Cristina Dantas Ramalhosa, Vitor Manuel Ramalheira Martins	Maria Fátima Alves Pinto Lopes da Silva	Alfredo Jorge Costa Teixeira	Elsa Cristina Dantas Ramalhosa
03-12-2021	03-12-2021	07-12-2021	07-12-2021