

HYGIENE AND FOOD SAFETY

Study programme: MIMV Curricular Year 3rd Semester 6th Compulsory ECTS: 4,5

Lecturers: Marília Catarina Ferreira (CCP/R), Teresa Semedo Lemsaddek, Cristina Mateus Alfaia, Telmo Pina Nunes, João Cota, Virgílio Almeida

1. Contact hours: Lectures – 26; Practical – 26

2. Objectives:

The knowledge of the basic concepts of production hygiene, aiming the fulfil of animal welfare. On the other hand, the students should be able to cooperate in the elaboration of proactive systems for quality assurance.

3. Programme:

Theoretic - The concept of hygiene. General elements of animal hygiene. Hygienic design of facilities and equipment. Water supply and wastewater. Personal hygiene. Veterinary hygiene methods and techniques: washing; disinfection. Pest control. Methodologies for cleaning and sanitation of premises. Biofilms in the food industry. Hygienic treatment and disposal of waste and effluents; environmental management, prevention and integrated pollution control.

Evolutionary perspectives of Veterinary Hygiene - animal biosafety and food quality and safety. Hygiene and safety at work. Concept of food safety. Risk analysis, assessment, management and communication in food safety. Risk management methodologies. Reactive and proactive food quality systems. Sampling rules, collection techniques and rules for sending samples to the laboratory. Preliminary methodologies for implementing food safety systems. Codes of good practice. Traceability. Integrated quality safety systems. The HACCP system. Self-control plans. Hazard identification. Integration of quality management systems. Plan for the approval and control of establishments - PACE. Hygiene and guaranteeing food safety in the distribution and catering sectors. 4C's system. Labeling and consumers.

Practical - Microbiological analysis. Personal, environmental and factory hygiene. Water analysis. Methodologies for cleaning and sanitizing premises. Hygiene and safety at work. Development of risk analysis models. Drawing up self-control plans for food, using proactive methodologies.

4. Bibliography:

Class handouts, lecture notes, scientific and technical papers.

Blackburn, C.W. & McClure, P.J. (2009). *Foodborne Pathogens. Hazards, Risk Analysis and Control Processing*. 2nd Ed. Woodhead Publishing. ISBN 978-1-84569-362-6.

Brown, M. & Stringer, M. (2002). *Microbiological Risk Assessment in Food Processing*. Woodhead Publishing Limited, Abington Hall, Cambridge, UK.

Cramer, M.M. (2006). *Food Plant Sanitation: Design, Maintenance and Good Manufacturing Practices*. Taylor and Francis Group. U.S.A.

Lelieveld, H. & Mostert, T. (2013). *Hygiene in Food Processing: Principles and Practice*. 2nd Ed. Woodhead Pub. Inc Abington, Cambridge, U.K.

Mortimore, S. & Wallace, C. (2013). *HACCP a Practical Approach. Practical Approaches to Food Control and Food Quality Series*. 3rd Ed. The Royal Institute of Public Health and Hygiene, London, U.K.

Sprenger, R.A. (2017). *Hygiene for Management*. 19th Ed. Highfield Publications, London.

Vries, J. (1997). *Food Safety and Toxicity*. CRC Press, Inc., Boca Raton, Florida, U.S.A
Applicable legislation.

5. Assessment:

The students' knowledge is evaluated weekly with little tests about practical matters (30%) and with a written final examination about theoretical subjects (70%) which includes true-false questions, short-answer questions and a long-answer question.